

R406 N21

# SPEECH MONOGRAPHS

PUBLISHED BY  
THE SPEECH ASSOCIATION OF AMERICA

VOLUME XIII

1946

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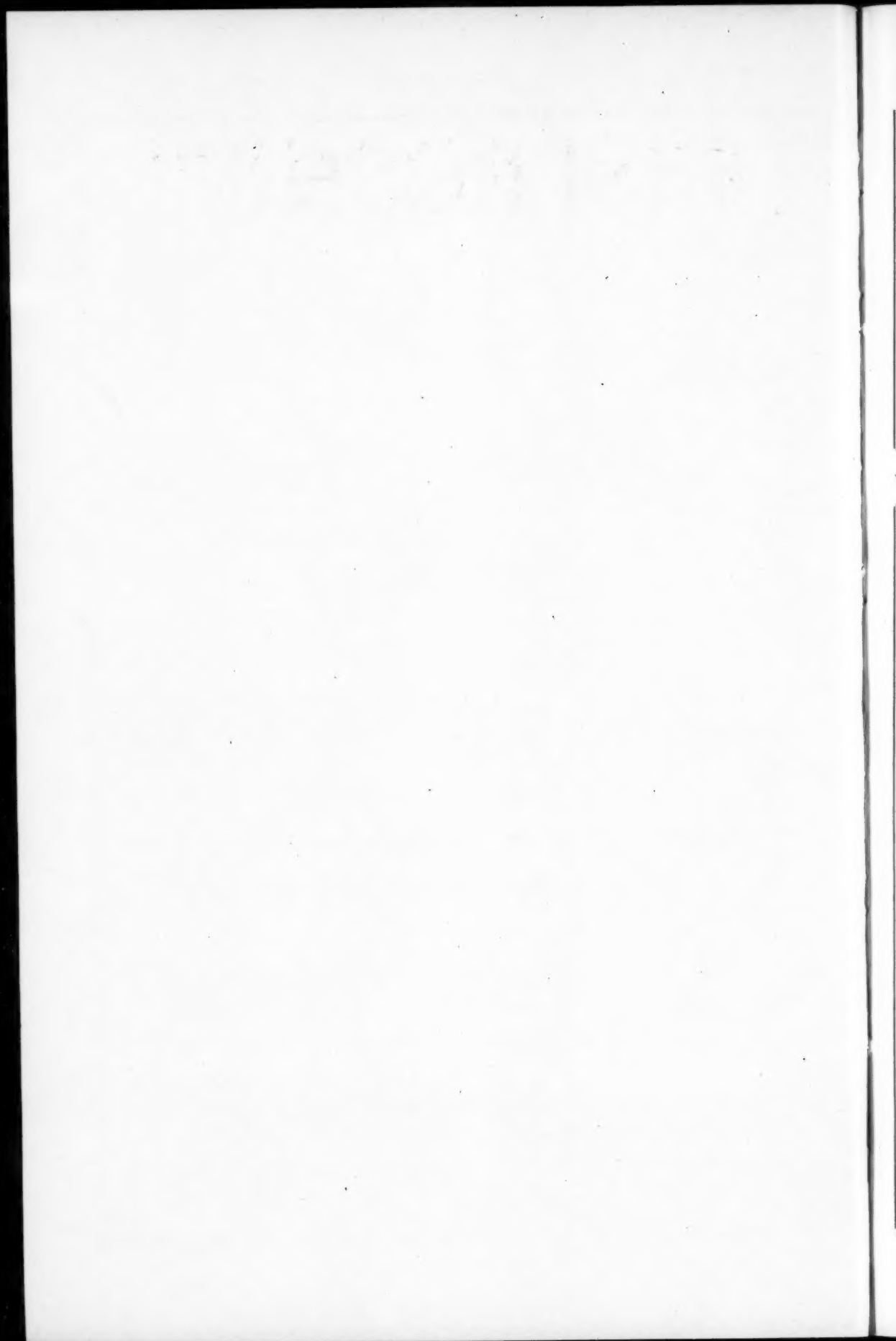
The Official Publication  
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THE SPEECH ASSOCIATION OF AMERICA

THE QUARTERLY JOURNAL OF SPEECH is published in the months of February, April, October, and December by THE SPEECH ASSOCIATION OF AMERICA.

Subscription price \$3.00 a year, including membership in THE SPEECH ASSOCIATION OF AMERICA. Single copies of current issue, \$1.00. All remittances should be payable to THE QUARTERLY JOURNAL OF SPEECH.

Index and title page for the current volume is bound in each December JOURNAL.

A Table of Contents of all back issues of THE QUARTERLY JOURNAL OF SPEECH and SPEECH MONOGRAPHS is available at 25 cents a copy.



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EDITOR'S NOTE

In the last year's issue of *Speech Monographs*, the editor ventured to hope that the impending return to academic life of our scholars who had been in the armed services might result in a considerable increase in publishable research materials in speech. He was hardly prepared, however, for the number of superior studies sent him, late in the school year. It seemed to the editor, and to the officers of the Association, that it was desirable to publish more material than could be bound in one issue. As a result this volume of *Speech Monographs* is being published in two sections, No. 1 and No. 2.

This issue, Number 1 of Volume XIII, contains various studies, similar in nature to those of other issues, with the addition of the abstracts of masters' and doctors' theses, as authorized by the Association at its last annual meeting.

The second section, Volume XIII, No. 2, to be issued early in 1947, will consist of studies in speech intelligibility resulting from a research project carried on, during the recent war, for the Office of Scientific Research and Development, directed and edited by John W. Black.

THE EDITOR

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# SPEECH MONOGRAPHS

VOLUME XIII

1946

NUMBER 1

## DE QUINCEY ON SCIENCE, RHETORIC, AND POETRY

WILBUR SAMUEL HOWELL  
*Princeton University*

I  
DE QUINCEY'S famous distinction between the literature of knowledge and the literature of power is considered by Charles Sears Baldwin to confirm the ancient Greek distinction between rhetoric and poetics.<sup>1</sup> Baldwin expresses this opinion without any attendant elaboration or analysis; he is merely interested at the moment in pointing to a few modern examples of the sort of critical thinking that had been prevalent in antiquity. It doubtless seemed obvious to him that his casual reference to De Quincey was sufficiently clear in its context and needed nothing in the way of specific explanation. At any rate, we have no recourse but to examine that context as best we can and make it say whatever Baldwin allows it to suggest, if we are properly to evaluate his statement about De Quincey.

Not long before he mentions De Quincey, Baldwin speaks of rhetorical theory and poetical theory in ancient Greece as presupposing that "the art of speaking and writing is not throughout its various phases single and constant, but distinctly twofold"; he says further that "the ancients discerned and developed an art of daily communication, especially of public address, *τέχνη ρητορική*, *ars oratoria*, rhetoric; on the other hand,

an art of imaginative appeal, *τέχνη ποιητική*, *ars poetica*, poetic"; and he refers, moreover, to Aristotle's *Rhetoric* and *Poetics* as the only ancient works to define sharply and elaborate fully the distinction between these two grand divisions of discourse.<sup>2</sup> Hence, when he goes on almost at once to identify De Quincey's distinction with that of the ancient critics, we must assume—must we not?—that to him De Quincey voiced opinions closely similar to those of Aristotle.

Baldwin is completely right in insisting that the distinction between rhetoric and poetics is a fundamental postulate of Aristotle's literary theory and is so pervasive in Greek and Roman criticism that its latent presence is everywhere discernible. But he ought to have emphasized that the ancient critics considered dialectic and rhetoric, rather than rhetoric alone, to have pre-eminent jurisdiction over the rhetorical, or better, the non-imitative branch of literature. His failure to stress this fact and to explain that in the Aristotelian view dialectic was what we would call today the theory of formal scientific writing, while rhetoric was what we call the theory of popular argumentation, makes his analysis of Aristotle's theory of non-imitative discourse incomplete and to

<sup>1</sup> Baldwin, C. S., *Ancient Rhetoric and Poetic* (New York, 1924), p. 4.

<sup>2</sup> *Ibid.*, pp. 1-4. The direct quotations are from p. 1.

some extent misleading.<sup>3</sup> Somewhat misleading, also, is his account of the ancient theory of poetical or imitative literature. He says that poetry and its companion forms were considered by the ancients to be "primarily imaginative, a progress from image to image determined emotionally."<sup>4</sup> Such language as this he did not borrow from Aristotle's *Poetics* but from much later works. What he does—and this deserves stress—is to superimpose upon his account of ancient poetical theory a terminology in which severe cleavages between intellect and imagination, reason and emotion, are more consciously presupposed than they were by Aristotle. But, despite these two weaknesses in his analysis of ancient rhetorical and poetical theory, his emphasis upon the tendency of Greek criticism to presuppose or even to acknowledge explicitly the existence of two great families of discourse, one different in fundamental ways from the other, is both necessary and significant.

It is my purpose in this paper to inquire into the propriety of Baldwin's remark that De Quincey's distinction between the literature of knowledge and the literature of power supports and strengthens Aristotle's distinction between rhetoric and poetry. What I shall do is to examine first of all De Quincey's opinions on rhetoric and eloquence, in an attempt to show that he and Aristotle have little in common so far as these subjects are concerned. Then I shall examine De Quincey's distinction between the literature of knowledge and the literature of power and compare it with Aristotle's conception of the relations between non-imitative and imitative literature. It will, I hope, become

obvious as I proceed that De Quincey did not design his theory of the two great classes of discourse as Aristotle designed his. And it will probably be obvious, too, that in my opinion De Quincey's distinction is less satisfactory than Aristotle's as a way of accounting for the major difference between non-poetical and poetical literature.

## II

In the year 1828, De Quincey contributed to *Blackwood's Magazine* a review of Whately's *Elements of Rhetoric*, in which he sought not so much to evaluate the work of his learned contemporary as to set forth at some length his own theory of the difference between rhetoric and eloquence. Nowhere else in his writings does he afford us a better opportunity to understand his own conception of these two subjects or his own knowledge of Aristotelian rhetoric. Therefore, to his review I shall now devote some attention.

At an early stage of his review,<sup>5</sup> De Quincey mentions that Coleridge was "in the habit of drawing the line with much philosophical beauty between Rhetoric and Eloquence." Admitting, however, that he had never been so fortunate as to hear Coleridge explore this topic, he proceeds to distinguish the two terms in his own way. To him, eloquence is "the overflow of powerful feelings upon occasions fitted to excite them," whereas "Rhetoric is the art of aggrandizing and bringing out into strong relief, by means of various and striking thoughts, some aspect of truth which of itself is supported by no spontaneous feelings, and therefore rests upon

<sup>3</sup> For a discussion of the relations between dialectic and rhetoric in antiquity, see Howell, W. S., *The Rhetoric of Alcuin and Charlemagne* (Princeton, 1941), pp. 33-64.

<sup>4</sup> Baldwin, *op. cit.*, p. 3; see also pp. 134-135.

<sup>5</sup> The text to which I refer throughout this study is in *The Collected Writings of Thomas De Quincey*, New and Enlarged Edition, ed. by David Masson, 14 vols. (Edinburgh, 1889-1890), X, 81-133. The reference to Coleridge and the definitions of eloquence and rhetoric are on page 92. In subsequent notes "De Quincey" will stand for this edition.

artificial aids." These, I repeat, are De Quincey's own definitions. Certainly he intended them to limit eloquence to the type of discourse in which an appeal is made to the passions; and to divorce rhetoric, as a theory of composition, from any interest in the methods of conviction and demonstration. This intention is fully clarified when he remarks, as a prelude to these definitions, that "where conviction begins, the field of Rhetoric ends; that is our opinion; and, as to the passions, we contend that they are not within the province of Rhetoric, but of Eloquence."<sup>6</sup>

"In this view of Rhetoric and its functions," De Quincey observes, "we coincide with Aristotle; as indeed originally we took it up on a suggestion derived from him."<sup>7</sup> This avowal by De Quincey of his direct indebtedness to Aristotle's *Rhetoric* led David Masson, the editor of De Quincey's collected writings, to explain in a detailed footnote some of the meanings that the word "rhetoric" had acquired since the time of Aristotle, and to set forth those points in Aristotle's doctrine that De Quincey had imperfectly remembered or wrongly understood. But such explanations need not enter our present discussion. It is for the moment sufficient to emphasize that eloquence designated to De Quincey the sort of discourses which Aristotle would have regarded as the typical products of rhetorical theory, and that rhetoric meant to De Quincey all of the typical products of that narrow, unphilosophical rhetoric which Aristotle did so much to condemn. Perhaps we should add that the conception of rhetoric constructed by De Quincey under the authority of Aristotle is so attenuated, so unreal, so far divorced from actual human experience, so completely devoid of connec-

tion with the urgent issues of politics and law, that we can only wonder why De Quincey would think it worth while for Aristotle or any serious-minded person to bother with it in any theoretical or practical way.<sup>8</sup>

The narrowness of De Quincey's idea of rhetoric is apparent throughout his review of Whately's *Elements*. Sketching the history of rhetoric, and accounting for its periods of popularity and oblivion, he has something to say of the rhetorics of Greece, Rome, England, France, Germany, Italy, and Spain. At one point he remarks:

Rhetoric, in its finest and most absolute burnish, may be called an *eloquentia umbratica*; that is, it aims at an elaborate form of beauty which shrinks from the strife of business, and could neither arise nor make itself felt in a tumultuous assembly.<sup>9</sup>

A moment later, he observes that "all great rhetoricians in selecting their subject have shunned the determinate cases of real life." This remark leads him to speak of rhetoric in Greece. He says:

We can readily understand, therefore, why the fervid oratory of the Athenian assemblies, and the intense reality of its interest, should stifle the growth of rhetoric: the smoke, tarnish, and demoniac glare of Vesuvius easily eclipse the pallid coruscations of the aurora borealis. And, in fact, amongst the greater orators of Greece there is not a solitary gleam of rhetoric. Isocrates may have a little, being (to say the truth) neither orator nor rhetorician in any eminent sense; Demosthenes has none.<sup>10</sup>

If it seems strange to us that not a solitary gleam of rhetoric is to be found among the greater orators and the great orations of Greece, especially when we remember that Aristotle, writing what he conceived to be the theory of what

<sup>8</sup> For a more favorable view than mine of De Quincey's theory of rhetoric, see Hudson, H. H., "De Quincey on Rhetoric and Public Speaking," *Studies in Rhetoric and Public Speaking in honor of James Albert Winans* (New York, 1925), pp. 133-151.

<sup>9</sup> De Quincey, X, 93.

<sup>10</sup> *Ibid.*, p. 94.

<sup>6</sup> De Quincey, X, 82.

<sup>7</sup> *Ibid.*, p. 83.

orations are and what orators do, called that theory rhetoric, De Quincey's treatment of the rhetoricians in Rome seems even stranger, even more capricious. He includes among them Livy and Ovid, the two Plinys, Lucan, Petronius, Quintilian; above them all he places the two Senecas.<sup>11</sup> He does not mention Cicero — Cicero, a great speaker, who almost alone among the great speakers of Western Europe interested himself in the theory of his art and wrote treatises on rhetoric which constitute in sum the most enlightened of such works in the Roman period and the best synthesis of Aristotle's *Rhetoric* ever attempted. De Quincey is not interested in the theory that would give an explanation of the orations against Cataline; to him rhetoric grows out of society's sterility and defeat, and out of the rhetorician's preoccupation with language when language is used without reference to the things it symbolizes. In fact, he clearly suggests this view when he says:

To hang upon one's own thoughts as an object of conscious interest, to play with them, to watch and pursue them through a maze of inversions, evolutions, and harlequin changes, implies a condition of society either, like that in the monastic ages, forced to introvert its energies from mere defect of books (whence arose the scholastic metaphysics, admirable for its subtlety, but famishing the mind whilst it sharpened its edge in one exclusive direction); or, if it implies no absolute starvation of intellect, as in the case of the Roman rhetoric, which arose upon a considerable (though not very various) literature, it proclaims at least a quiescent state of the public mind, unoccupied with daily novelties, and at leisure from the agitations of eternal change.<sup>12</sup>

Small wonder that, in De Quincey's view, "the age of Rhetoric, like that of Chivalry, has passed amongst forgotten things!"<sup>13</sup> Even eloquence, he observes,

has suffered an eclipse in the modern world. He adds, however:

Eloquence is not banished from the public business of this country as useless, but as difficult, and as not spontaneously arising from topics such as generally furnish the staple of debate. But rhetoric, if attempted on a formal scale, would be summarily exploded as pure foppery and trifling with time.<sup>14</sup>

Inconsistencies in De Quincey's conception of rhetoric begin to show when he names the English authors who qualify as eminent masters of that art. Foremost among these he places Donne. Opposing Dr. Johnson's designation of Donne as a "metaphysical poet," De Quincey remarks that Donne is better described as "rhetorical." "In saying *that*, however," he hastens to add, "we must remind our readers that we revert to the original use of the word *Rhetoric*, as laying the principal stress upon the management of the thoughts, and only a secondary one upon the ornaments of style."<sup>15</sup> Is not De Quincey's reminder perplexing in the extreme? Up to this point he has been treating rhetoric as the art of stylistic ornamentation, or as that kind of composition in which an author eddies about his own thoughts, allows his fancy to move "self-sustained from its own activities," and indulges in a "flux and reflux of thought, half meditative, half capricious";<sup>16</sup> and he has claimed for this conception the authority of Aristotle. Now he emphasizes that rhetoric is something more than mere verbal intricacy — that it is the art of managing thoughts and by extension the art of coming to terms with the objective realities to which thoughts and words ultimately refer. Would Aristotle prefer this latter view to the former? De Quincey does not openly say he would. But the fact that the two views are not

<sup>11</sup> *Ibid.*, p. 95.

<sup>12</sup> *Ibid.*, p. 97.

<sup>13</sup> *Ibid.*, p. 97.

<sup>14</sup> *Ibid.*, p. 100.

<sup>15</sup> *Ibid.*, p. 101.

<sup>16</sup> These phrases appear later in the work under consideration; see De Quincey, X, 121.



identical, and that De Quincey has both in mind, may account for his inclusion of the names of Burton, Milton, Jeremy Taylor, Sir Thomas Browne, Bolingbroke, Canning, and (with some qualifications) Burke among the great English rhetoricians. Hailing Burke as "the supreme writer of his century, the man of the largest and finest understanding," De Quincey adds that he was not the one "to play with his fancy for the purpose of separable ornament," and that only in rare cases did he "indulge himself in a pure rhetorician's use of fancy."<sup>17</sup>

In these remarks, and in others about Burton, Milton, Taylor, and Browne, De Quincey may be said to preserve his conception that rhetoric is the art of dressing thoughts *en grand costume*; but if he had explicitly to alter this view in order to make Donne a respectable rhetorician, we cannot be too sure that he did not implicitly alter it in giving his other authors that same title.

### III

Our survey of De Quincey's opinions on rhetoric and eloquence indicates that the second of these terms, and on rare occasions the first, meant to him what the first meant to such writers as Aristotle and Cicero. As we turn now to De Quincey's discussion of the literature of knowledge and the literature of power, we ought to keep in mind that, if these large classes of discourse are to be regarded as parallel to the rhetorical and the poetical branches of ancient theory, then we would expect to find De Quincey classifying what he called eloquence, and perhaps what he called rhetoric, within the scope of the literature of knowledge. In other words, we would expect that De Quincey's distinction be-

tween the one sort of literature and the other would not place the oration and the sermon within the field of poetry. But our expectation is not fulfilled by De Quincey. He visualizes sermons, orations, and that curious kind of word-play which he calls rhetoric, as more nearly akin to poetry than to scientific writing. Emphasizing that the literature of power, or literature properly so called, includes works printed in books and works published by other means, — by oral communication, for example, — he remarks that "much literature, scenic forensic, or didactic (as from lecturers and public orators), may never come into books, and much that *does* come into books may connect itself with no literary interest."<sup>18</sup> Somewhat earlier he said:

The weekly sermons of Christendom, that vast pulpit literature which acts so extensively upon the popular mind—to warn, to uphold, to renew, to comfort, to alarm—does not attain the sanctuary of libraries in the ten-thousandth part of its extent. The Drama again,—as, for instance, the finest of Shakespere's plays in England, and all leading Athenian plays in the noontide of the Attic stage,—operated as a literature on the public mind, and were (according to the strictest letter of that term) *published* through the audiences that witnessed their representation some time before they were published as things to be read. . . .<sup>19</sup>

If these positive statements are not in themselves sufficient evidence of De Quincey's intention to regard orations and sermons as part of the literature of power, they tend at least in that direction. So also do the remarks that he makes when he describes the actual specimens of the literature of knowledge. To this class he assigns no work that he would call rhetorical or oratorical. To this class, instead, he assigns such books as dictionaries, encyclopedias, grammars, spelling-books, the Court Calendar, and

<sup>17</sup> For the references to Burke, see De Quincey, X, 114-115. The discussion of English rhetoricians begins on p. 100 and extends to p. 121.

<sup>18</sup> De Quincey, XI, 54.

<sup>19</sup> *Ibid.*, pp. 53-54.

the parliamentary reports, these being the humbler examples, while histories, biographies, travels, and works like Newton's *Principia* and those of Laplace, he specifies as higher examples and warns that they are sometimes confused with true literature by unperceptive critics.<sup>20</sup>

It ought to be remarked at this point that De Quincey's distinction between the literature of knowledge and the literature of power exists in two versions, one of which was published in 1823, when he was 37 years of age, and the second in 1848, when he was 63.<sup>21</sup> The first version appears in a work entitled "Letters to a Young Man whose Education has been Neglected," published in several installments in the *London Magazine*. Advising his readers upon the question of selecting foreign languages for a coherent plan of education, De Quincey remarks that a particular language ought to be chosen after one has decided whether his inclinations lie in the direction of science or in the direction of literature. How can one make this decision? De Quincey's answer, which he credits in its broad outline to many years' conversation with Wordsworth,<sup>22</sup> is given as a distinction between what he calls books of knowledge, or anti-literature, or *literae didacticae*, or *παιδεία*, on the one hand, and literature, or *literae humaniores*, on the other. The terms "literature of knowledge" and "literature of power," as a way of expressing this distinction, appear in the second version, which was published in the *North British Review* for August, 1848, in connection with De Quincey's

critical estimate of Roscoe's edition of the works of Pope.

The first version provides two criteria which the critic may use in determining whether a given work justly belongs to science or to literature. One criterion involves certain realities in the given work itself. If it is a work, says De Quincey, "in which the matter to be communicated is paramount to the manner or form of its communication,"<sup>23</sup> then it belongs to science — it is a book of knowledge. He does not state what the relation of matter and form would have to be in the work of literature. But he is thinking of one class as the logical antithesis of the other, and we may therefore assume that in his view the literary work would be that in which form or manner of communication is paramount to the matter. The second criterion involves the effect of the given work upon the reader. "All that is literature," says he, "seeks to communicate power; all that is not literature, to communicate knowledge."<sup>24</sup> What, then, we ask, is power? De Quincey's answer is explicit. Reduced to its simplest terms, his idea is that power is a personal possession of the reader of a literary work when that work has so affected him as to make him conscious of unhabitual emotions and of their organization. De Quincey's own definition of power is as follows:

Now, if it be asked what is meant by communicating power, I, in my turn, would ask by what name a man would designate the case in which I should be made to feel vividly, and with a vital consciousness, emotions which ordinary life rarely or never supplies occasions for exciting, and which had previously lain unwakened, and hardly within the dawn of consciousness—as myriads of modes of feeling are at this moment in every human mind for want of a poet to organize them? I say, when these inert and sleeping forms are organized, when these possibilities are actualized, is this conscious

<sup>20</sup> He mentions in several places the types of works which belong to the literature of knowledge; see especially De Quincey, X, 47, and XI, 57, 59.

<sup>21</sup> For the text of the first version, see De Quincey, X, 33-52; for that of the second, see De Quincey, XI, 51-97.

<sup>22</sup> De Quincey, X, 48, note. For the terms used by him in this first version, see *ibid.*, pp. 47, 49.

<sup>23</sup> *Ibid.*, p. 47.

<sup>24</sup> *Ibid.*, p. 48.

and living possession of mine power, or what is it?<sup>25</sup>

A consciousness of unhabitual emotions and of their organization, their structure — this, then, is the state of mind of the reader of a great poem. De Quincey illustrates this effect by describing with warmth and skill how *King Lear* and *Paradise Lost* affected him. Unfortunately he does not turn then to give a parallel definition of knowledge, conceived as the effect of a good work in science upon the mind of a reader. Remembering, however, as we did a moment ago, that he is thinking of books of knowledge as the logical antithesis of literature, and reminding ourselves that in the old psychology *thought* was regarded as a kind of antithesis of *emotion*, we may assume that to De Quincey *knowledge* is a consciousness of new thoughts and their structure.

Is there not a fundamental inconsistency between the two criteria proposed by De Quincey as a means of determining whether a book is literary or scientific? If a scientific work is such that in his view the matter to be communicated is paramount to the manner or form of the communication, then the reader of that work must be conscious of matter rather than form. That is to say, the formal aspects of that work, the structure and organization of its parts, will not appear in the reader's consciousness as configurations of his awareness of substance. Yet, if our statement of the effect of that kind of work upon the reader is a true antithesis of De Quincey's definition of power, then he himself would declare that the reader of a scientific work would be conscious not only of new thoughts, but also of their organization, their structure. In short, according to De Quincey's second criterion, the reader of a work in science would have that very

consciousness of manner or form which the first criterion seeks to deny to him. Would not De Quincey have been wise to discard altogether his first criterion, and to recognize explicitly that scientific works have a system of forms or structures suitable to themselves, and literature has a different system of structures to complement and administer its different procedures?

Another difficulty arises even when we abandon De Quincey's first criterion. His second criterion implies that the literature of power gives us no values except those associated with our consciousness of unhabitual emotions and their organization. Yet it is fair to insist that literature has something to do with our thoughts — that literature may make us aware no less than science of new thoughts and their organization. Once we admit this, we have destroyed much of the validity of De Quincey's second criterion; but we have prepared the way for a distinction between science and literature that will limit neither to an exclusive preoccupation with some one faculty of the mind, conceived as having power to operate more or less independently of other faculties. Perhaps it is because we can no longer believe in the validity of such a conception of the mind that we cannot accept De Quincey's definition of power as a full account of the happenings within ourselves when we read some great work like *King Lear* or *Paradise Lost*.

Twenty-five years after De Quincey formulated his distinction between science and literature, he stated it again, this time in the form which most scholars and critics associate with his name. Perhaps he felt that some of the inconsistencies in his earlier version should be eliminated; perhaps he had changed his mind on some details; perhaps he had even forgotten exactly what

<sup>25</sup> *Ibid.*, p. 48.

he had previously said. At any rate, his second account differs markedly from the first.

Whereas in the earlier version he had alluded with some contempt to the vulgar antithesis between instruction and pleasure as the determining factor in the distinction between the two kinds of discourse, and had dismissed it with the remark that "this wretched antithesis will be of no service to us,"<sup>26</sup> he now uses a modification of it as the entering wedge for his dichotomy. He observes:

In that great social organ which, collectively, we call literature, there may be distinguished two separate offices that may blend and often do so, but capable, severally, of a severe insulation, and naturally fitted for reciprocal repulsion. There is, first, the literature of *knowledge*; and, secondly, the literature of *power*. The function of the first is—to *teach*; the function of the second is—to *move*; the first is a rudder; the second, an oar or a sail. The first speaks to the mere discursive understanding; the second speaks ultimately, it may happen, to the higher understanding or reason, but always *through* affections of pleasure and sympathy.<sup>27</sup>

Involved in these words is one set of terms which may need a bit of explanation. The "mere discursive understanding," to which the literature of knowledge speaks, is probably to be accepted as De Quincey's term for man's intelligence; the "higher understanding or reason," to which speaks the literature of power, is his term for man's intuitive faculty. Something of the force of these terms within the framework of his whole distinction can be gathered from what he himself says a moment later:

It [that is, the literature of power] is concerned with what is highest in man; for the Scriptures themselves never condescended to deal by suggestion or co-operation with the mere discursive understanding; when speaking of man in his intellectual capacity, the Scriptures speak not of the understanding, but of "*the understanding heart*,"—making the heart, i.e. the

great intuitive (or non-discursive) organ, to be the interchangeable formula for man in his highest state of capacity for the infinite.<sup>28</sup>

In De Quincey's review of Whately's *Elements*, he has something to say which further clarifies the meaning he assigns to the intuition and the ordinary intelligence. There he observes:

An intuition is any knowledge whatsoever, sensuous or intellectual, which is apprehended immediately: a notion, on the other hand, or product of the discursive faculty, is any knowledge whatsoever which is apprehended *mediately*. All reasoning is carried on discursively; that is, *discurrendo*,—by running about to the right and the left, laying the separate notices together, and thence mediately deriving some third apprehension.<sup>29</sup>

These words, it may be observed, are written by De Quincey in order that he may deliver a reprimand to Milton for degrading the fallen angels in *Paradise Lost* by making them debate with the ordinary instruments of the discursive faculty. Arguing that spiritual beings must share with God the ability to see the whole argument in a flash of intuition, not in a slow development of intermediate propositions, and that Milton had violated this propriety, De Quincey calls the Second Book of *Paradise Lost* a descent from poetry into rhetoric, and suggests that Milton doesn't do any better in his logic than would the House of Commons. Be that as it may. What is of interest to us at this moment is that to De Quincey the process of mediate inference in logic, with its concern for the fully articulated syllogism, is characteristic of man's reasoning faculty, whereas the immediate inference of logic, with its mode of inferring one proposition directly from another without the use of a middle term, is the instrument of man's intuition.

It is now clear that De Quincey's second version of the distinction between

<sup>26</sup> *Ibid.*, p. 47.

<sup>27</sup> *Ibid.*, XI, 54.

<sup>28</sup> *Ibid.*, p. 56.

<sup>29</sup> *Ibid.*, X, 103.



the two kinds of literature involves in the last analysis not so much the terms *teaching* and *moving* as the terms *intelligence* and *intuition*. What he has to say about the difference between scientific truth and literary truth illustrates this point. A scientific truth he describes as a truth which a person may be absolutely unconscious of before he learns it. "To be capable of transplantation," he observes, "is the immediate criterion of a truth that ranges on a lower scale."<sup>30</sup> That is to say, a man may not know that a stone is hard; but the knowledge can be given him, either by direct experience with a stone, or by words from somebody who transplants the notion in his consciousness. When man first acquires such notions as these, they are new to him, or at least, as De Quincey says, they are "connected with something of absolute novelty." But literary truth is that of which a person is never, at any time in his life, wholly unconscious. De Quincey says:

... it is the grandeur of all truth which *can* occupy a very high place in human interests that it is never absolutely novel to the meanest of minds: it exists eternally by way of germ or latent principle in the lowest as in the highest, needing to be developed, but never to be planted.<sup>31</sup>

This higher truth is connected with man's innate ideas. "Tragedy, romance, fairy tale, or epopee," declares De Quincey, "all alike restore to man's mind the ideals of justice, of hope, of truth, of mercy, of retribution, which else (left to the support of daily life in its realities) would languish for want of sufficient illustration."<sup>32</sup>

In De Quincey's view, the literature of power not only presents higher truth but also creates in the reader a deep sympathy for it. Indeed, he finds a

parallel between the effect of literature and the effect of children or of direct experience upon the individual or society. In one of his most attractive passages he says:

What is the effect, for instance, upon society, of children? By the pity, by the tenderness, and by the peculiar modes of admiration, which connect themselves with the helplessness, with the innocence, and with the simplicity of children, not only are the primal affections strengthened and continually renewed, but the qualities which are dearest in the sight of heaven,—the frailty, for instance, which appeals to forbearance, the innocence which symbolizes the heavenly, and the simplicity which is most alien from the worldly,—are kept up in perpetual remembrance, and their ideals are continually refreshed. A purpose of the same nature is answered by the higher literature, viz. the literature of power.<sup>33</sup>

And again he speaks to the same purpose:

Were it not that human sensibilities are ventilated and continually called out into exercise by the great phenomena of infancy, or of real life as it moves through chance and change, or of literature as it recombines these elements in the mimicries of poetry, romance, etc., it is certain that, like any animal power or muscular energy falling into disuse, all such sensibilities would gradually droop and dwindle.<sup>34</sup>

As he completes his second version of the distinction between science and literature, De Quincey remarks upon the provisional character of the one as contrasted to the permanent character of the other:

The very highest work that has ever existed in the Literature of Knowledge is but a *provisional* work: a book upon trial and sufferance, and *quamdiu bene se gesserit*. Let its teaching be even partially revised, let it be but expanded,—nay, even let its teaching be placed in a better order,—and instantly it is superseded. Whereas the feeblest works in the Literature of Power, surviving at all, survive as finished and unalterable amongst men.<sup>35</sup>

De Quincey provides an illustration of this statement by comparing Newton's

<sup>30</sup> *Ibid.*, XI, 55.

<sup>31</sup> *Ibid.*, p. 55.

<sup>32</sup> *Ibid.*, p. 56.

<sup>33</sup> *Ibid.*, p. 55.

<sup>34</sup> *Ibid.*, p. 56.

<sup>35</sup> *Ibid.*, p. 57.



*Principia* with such works as the *Iliad* and *Hamlet*. The former survives, he observes, only so far as it can continue to surpass the rival works of Laplace in respect to exact truth and felicity of arrangement; but the *Iliad* and *Hamlet* survive without vying with each other — they survive because each is unique, self-sustained, triumphant for ever.

## IV

In this analysis of De Quincey's thinking upon the subject of science, rhetoric, and literature, we have seen that rhetoric, conceived by him to be stylistic virtuosity, lies within the province of literature properly so called, near the subdivision of eloquence, and not far from the subdivision which contains the highest poetry. There can be little or no doubt that he would tend to identify poetry, on the one hand, with oratory and verbal ingenuity, on the other; for poetry, in his view, is directly concerned with an emotional effect, so far, at least, as it operates through affections of pleasure and sympathy, whereas rhetoric aims at an elaborate form of beauty, and eloquence is an overflow of powerful feelings. We have also seen that the literature of knowledge is coextensive in his thinking with all sorts and degrees of scientific writing, and that his theory of the division of discourse into two classes makes one class rather small and narrow and definite, the other being wide and strangely assorted and blurred in its internal groupings. We have looked closely at his two versions of this theory. The first, as we have indicated, affords two criteria for discerning whether a book belongs to science or to literature. The second criterion, which identifies function with a reader's consciousness of emotions and their organization or of thoughts and their organization, seems to us to contradict the first, in which De Quincey states that matter is paramount

in science, form in literature. The second criterion, moreover, because it implies that man's emotions and his thoughts can be, as it were, dissociated, and can respond as separable units of consciousness, without close organic interconnection, seems today to be questionable. What, now, of the second version of De Quincey's theory? That, as has been pointed out, depends upon a third criterion—the difference between man's faculty of intuition and his faculty of reason. If we accept this criterion as a way of establishing a scheme of values for scientific writing and poetry, we may often wonder how far it is allowable for us to exclude intuition from science or reason from literature. We may also wonder why, if De Quincey makes a distinction at one time between two things in terms of emotion and thought, and a later distinction in other terms, it is not incumbent upon him to explain rather than to ignore this change in his basic terms. It would seem, therefore, that De Quincey's two attempts to distinguish between science and literature are not of the highest value, when we judge them in and for themselves. He poses a very important question in criticism; he raises essential issues. But his answer to the question is vitiated by an inconsistency and founded upon a psychological theory that denies the possibility of interconnections between emotional and intellectual experience.<sup>36</sup>

## V

The question whether De Quincey's theory of the divisions of discourse cor-

<sup>36</sup> J. H. Fowler, in *De Quincey as Literary Critic*, The English Association, Pamphlet No. 52 (July, 1922), pp. 4-8, finds De Quincey's distinction between literature of knowledge and literature of power to be unhelpful, false, harmful. In making this appraisal, Fowler only examines the second version of the distinction, and does not press his analysis of it to the point where he perceives the importance of the issues raised by De Quincey.

roborates that of Aristotle need not concern us at great length. The chief resemblance between the two is that each postulates two main families of discourse and seeks to explain the differences between them. But here close resemblance ends. And it may at once be anticipated that a correspondence based upon a postulate of this sort need not be extensive or systematic, and would not in itself establish Baldwin's statement that De Quincey's theory confirms Aristotle's.

To Aristotle, the two main families of discourse embrace on the one hand scientific writing, historical writing, and oratory, and on the other drama, epic poetry, and lyric poetry. That is to say, he does not draw the line between the two families in such a way as to place oratory in the class of poetical compositions; rather, he places oratory in the other class, no doubt in the belief that the oral utterance in the law court and the public legislative body has somewhat the same ultimate relation to the realities with which it deals as does the oral or written utterance in the philosophical academy or the historical seminar. Nor does he draw the line between the two families in such a way as to suggest a severe insulation, a reciprocal repulsion, between the mental faculties to which scientific discourse and poetical discourse are sometimes considered respectively to relate. Had he drawn both of these lines, his theory would have anticipated De Quincey's, and De Quincey's would have supported his. But his real distinction is made with other postulates in mind.

The works of Aristotle to which we must refer in determining the main outlines of his whole theory of discourse are the *Topics*, the *Rhetoric*, and the *Poetics*. At least, these are to be regarded as his major contributions to literary

speculation. It may be said that each of these works focuses attention upon one of the three chief activities in the field of discourse, and that, taken together, the three works cover the field.

The reader of the *Topics* and the *Rhetoric* does not need to be reminded that these two works are interconnected at many points. Indeed, the *Rhetoric* begins with the statement that "Rhetoric is the counterpart of Dialectic,"<sup>37</sup> dialectic being of course the true subject of the *Topics*; and the cross-references between the former work and the latter are frequent and suggestive. When Aristotle's thinking upon these two subjects has been explored, the conclusion is plain that he intended dialectic to be the theory of the formal scientific utterance, in an age when scientific procedures were in the hands of philosophers and dialecticians, and rhetoric to be the theory of popularizing and defending truth or good probability. Although rhetoricians might seem at times to be using verbal deception and fraudulent statements as a substitute for accurate expression, and to be therefore adhering to a theory that contradicts good procedures in scientific and historical writing, yet Aristotle, particularly in his analysis of the four uses of rhetoric, insists upon the superior persuasiveness of true statements over false,<sup>38</sup> and thus clearly recognizes the correspondence between truth in scientific writing and persuasiveness in oratory.

In sum, Aristotle's *Topics* and *Rhetoric* offer together a theory of one of the two main families of discourse. Aristotle gives no name to this family. But might we not say that his treatises on scientific writing, or dialectic, and oratorical expression, or rhetoric, constitute a kind of

<sup>37</sup> Cooper, Lane, *The Rhetoric of Aristotle An Expanded Translation* (New York, 1932), p. 1.

<sup>38</sup> *Ibid.*, pp. 5-6. See also Plato's *Phaedrus*, where the same theory of persuasion is advanced.

theory of the literature of statement? That is to say, these treatises investigate the relations between statements, as verbal phenomena, and the facts to which words refer—these treatises investigate the degrees and kinds of correspondence that must exist between verbal descriptions of reality and reality itself, if those descriptions are to convince people, as in the case of science, or persuade people, as in the case of oratory.

Looking now at Aristotle's theory of the other main family of discourse, we observe that in the *Poetics* he states very explicitly the principle which differentiates poetry and science. He says:

Turning first to the conception of poetry in general, we may follow the natural order, and begin with what is fundamental, the principle of artistic imitation. Epic Poetry and Tragedy, as well as Comedy and Dithyrambic Poetry, and for the most part the music of the flute and lyre, in their general nature are forms of imitation; that is, they represent, or imitate, something through an arrangement of words or notes.<sup>39</sup>

Here then, is the underlying poetic principle—the principle that forms of poetry are forms of imitation, with words as the medium. Elsewhere in the same chapter, Aristotle applies this principle to a case in which scientific writing might be confused with poetry, and shows how the principle operates to preserve the separate identity of these two kinds of discourse. Empedocles had written versified natural science; Homer, too, had written in verse. But should Empedocles and Homer both be called poets, their work poetry? No, says Aristotle. And why not? Because such terminology would be accurate only "if it were not the principle of imitation that characterized the artist"; and he adds, "hence, if it is proper to style Homer a poet, Empedocles must be classed as

a natural scientist rather than a poet."<sup>40</sup>

What Aristotle says later about the difference between the historian and poet is an elaboration of the distinction between scientific writing and poetry, history being scientific in the sense that historians seek to state accurately in words the events that once actually transpired. Says Aristotle:

The essential distinction [between history and poetry] lies in this, that the Historian relates what has happened, and the Poet represents what might happen—what is typical. Poetry, therefore, is something more philosophic and of higher seriousness than History; for Poetry tends rather to express what is universal, whereas History relates particular events as such.<sup>41</sup>

The universals expressed in poetry are of course conceptions—conceptions about actual human life and actual human behavior. These conceptions direct the poet in his selection of a story that will reveal them; these conceptions dominate the story, give it unity, mood, purpose. But the story is partly or wholly invented. It is the process of using such stories and episodes to embody the meaning and the purpose of human life as the poet has actually observed it round about him that suggests what Aristotle means by "imitation" or "representation." In other words, the poet gathers his conceptions from his own observation of human situations in his experience; but he transmits these conceptions to other men by telling a story or presenting a dramatic action that stands by analogy for his own observation and experience. The historian, however, transmits to other men a consciousness of events that once transpired, by means of words that stand directly—not by way of symbol and analogy—for those actual events. Wherever the historian's method is at work—and it is at work in science and in oratory as in history—we may call it the method

<sup>39</sup> Cooper, Lane, *Aristotle on the Art of Poetry An Amplified Version* (New York, 1913), p. 2.

<sup>40</sup> *Ibid.*, p. 4.

<sup>41</sup> *Ibid.*, pp. 31-32.

of statement, and its products, the literature of statement. Wherever the poet's method is at work, we may call it the method of representation, and its products, the literature of representation. At any rate, Aristotle would seem by express statement and by implication to lend support to such a way of describing the differences between the two great families of discourse.

## VI

We may conclude, therefore, that Aristotle's distinction would place rhetoric within the province of De Quincey's literature of knowledge, whereas De Quincey himself would place rhetoric within the province of the literature of power. We may also conclude that De

Quincey bases his distinction upon an assumption of a sharp separation between the faculties of reason and emotion, or (in his second version) reason and intuition, whereas Aristotle bases his upon the assumption that truth finds its way from one man to another either by words that directly convey it or by words that represent it by means of symbols. Thus Baldwin would appear to have little basis for his statement that De Quincey confirms Aristotle. But what is more important is that if criticism is to provide an accurate description of the difference between rhetoric and poetry, Aristotle would seem to establish a better foundation than would De Quincey.



## THE DEVELOPMENT OF RHETORICAL THEORY IN AMERICA\*

WARREN GUTHRIE  
Western Reserve University

### I

#### THE DOMINANCE OF THE RHETORIC OF STYLE, 1635-1730

ALTHOUGH several students have given some attention to the beginnings of American rhetorical theory and speech training, no systematic and accurate survey from the point of view of this study has been available. In fact, the literature has often given evidence of many serious misapprehensions. On the one hand it is reported that "until the middle of the eighteenth century . . . the study of Aristotle, Cicero, Longinus, and Quintilian was required of every student,"<sup>1</sup> and on the other, that in speech training there was "surely no more than an extra-curricular interest."<sup>2</sup> Not only are these statements inconsistent, but it happens, if we interpret their meaning correctly, that both are erroneous. Likewise, the popular conception which is held today of the early rhetorical training is either that it was almost purely classical, or that it was no systematic training at all.

It will be the purpose of this study to present the factual data which are available on the rhetorical works used, and the academic discipline in rhetoric, as a

basis for setting out and interpreting the rhetorical theory and speech training of this period.

#### *Classical Influence to 1730*

In spite of the increasing popularity and influence of Aristotle in England and on the continent during the years in which the colonies were settled, there is slight evidence of the use of his great rhetorical work in the colonies. The library of John Harvard became the nucleus of the first university library—in it there was no copy of the *Rhetoric*.<sup>3</sup> In the first library in which it seems that the *Rhetoric* might have been present, that of the "Reverend and Learned Mr. Samuel Lee,"<sup>4</sup> the listing "Aristot." may refer to the *Rhetoric*. Since there is a separate listing of "Aristotilis Ethica" one might as logically conjecture that "Aristot." referred to the collected works of Aristotle. Again, it might well mean the *Analytics* or *Politics*, both better known than the *Rhetoric* at this time. When the 1723 catalogue of the library of Harvard College was prepared, the college had a 1588 edition of Riccoboni's Latin translation of Aristotle's *Rhetoric*, as well as a complete edition of the great philosopher's works.<sup>5</sup> There is general reference to Aristotle in the speech of a

\*From a dissertation submitted as part of the requirements for the degree of Doctor of Philosophy at Northwestern University, 1940. Since the preparation of this material, George V. Bohman and Ota Thomas in *A History of Criticism of American Public Address*, ed. W. N. Brigance (New York, 1943), I. 3-54, 193 ff., have confirmed and supplemented many of the conclusions reached in this study.

<sup>1</sup> Fritz, Charles A., "The Content of the Teaching of Speech in the American College before 1850; with Special Reference to its Influence on Current Theories" (Unpublished Ph.D. Dissertation; School of Education: New York University, 1928).

<sup>2</sup> Hayworth, Donald, "The Development of the Training of Public Speakers in America" *Quarterly Journal of Speech*, XIV (1928), 490.

<sup>3</sup> "A Catalogue of John Harvard's Library," with the works identified by A. C. Potter, is reprinted in the *Publications of the Colonial Society of Massachusetts*, XXI, 192-227.

<sup>4</sup> *The Library of the Late Reverend and Learned Mr. Samuel Lee* (Boston, 1693). W. G. Ford states that this is the first catalogue of books to be published in America (*The Boston Book Market, 1679-1700* [Boston, 1917], p. 5). George Berry Littlefield says that the contents show "what an educated man had in his library at that time" (*Early Boston Booksellers* [Boston, 1900], p. 133).

<sup>5</sup> *Catalogue Librorum Bibliothecae Collegii Harvardium Quod est Cantabrigiae in Nova Anglia* (Boston, 1723).



student at William and Mary delivered in 1699, but although he is mentioned along with Plato as the "Prince of Philosophers," it is Cicero who is singled out as the "Master of Rethorick,"<sup>6</sup> In 1729 the professor of moral philosophy at William and Mary was William Dawson of Queen's College, Oxford, and he was enjoined to teach "rhetoric logic and ethics," and not to be confined to the "logic and physics of Aristotle, which had reigned so long alone in the schools."<sup>7</sup>

More specific evidence of the use of Aristotle before 1730 is not to be found. The attitude of the colonists toward Aristotle is probably expressed fairly accurately by Cotton Mather, when he writes in *Magnalia*:

They that peruse the theses of the batchelors of later published, will find that though the Ramean discipline be in this college preferred unto the Aristotelian, yet they do not confine themselves unto that neither, as to deprive themselves of that *libra philosophis*, which the good spirits of the age have embraced, ever since the great Lord Bacon shew'd 'em the way to "the advancement of learning." . . . At least, I am sure, they do not show such a veneration for Aristotle as is expressed'd at Queens College in Oxford. . . .<sup>8</sup>

Since other evidence of influence of or concern with Aristotle's *Rhetoric* is lacking, and since there is definite evidence of emphasis on non-Aristotelian doctrines, the presumption must be that the influence of the *Rhetoric* on the earliest rhetorical theory of the colonists was negligible.

<sup>6</sup> "Speeches of Students of William and Mary delivered May 1, 1699," *William and Mary Quarterly*, October 1930, p. 324: "By the help of Learning, we may Converse with the most Excellent men of all ages, with the Sublime Philosopher Plato, with the Prince of Philosophers Aristotle, with the most Christian Philosopher Seneca, with Tully the Master of Rethorick, and unexhausted Fountaine of Eloquence. . . ."

<sup>7</sup> Tyler, Lyon G., *The College of William and Mary in Virginia* (Richmond, Virginia, 1907), p. 28.

<sup>8</sup> Mather, Cotton, *Magnalia Christi Americana* (Hartford, 1853), II, 21.

Cicero fared little better. Although his orations were widely available from the very first in the colonies, and although some of his works were required studies according to the college laws, there was no requirement of any of his rhetorical works, and they are to be found in few of the private libraries. Cicero's *Opera* were included in the library of John Harvard, and also in the 1723 catalogue of the Harvard Library, but the only privately owned copy of the *De Oratore* found in the preparation of this study was that of Increase Mather.<sup>9</sup> Further support for the belief that it was not widely known is provided by the pleased surprise with which Samuel Johnson encountered Cicero's "de Rhetorica" in 1721, and the speed with which he added the remainder of Cicero's rhetorical works to his reading list.<sup>10</sup>

By 1750, Cicero's influence was comparatively great, but for the earliest period his influence, like that of Aristotle is slight. Were there more available material on the earliest days in the southern colonies this conclusion might need modification, for the speech from William and Mary quoted earlier, calling Cicero the "Master of Rhetoric," would seem to indicate considerable use, but more specific evidence has not been found.

Almost no trace of direct use or influence of Quintilian before 1750 has been found. Cotton Mather alludes to the great Roman teacher in *Directions*, and Isaiah Thomas includes a copy of the *Institutio Oratoria* inscribed "S. Mather" in the library of Cotton Mather which he presented to the American Antiquarian Society.<sup>11</sup> There seems, how-

<sup>9</sup> Tuttle, Julius H., "The Libraries of the Mathers," *American Antiquarian Society*, New Series, XX, 288.

<sup>10</sup> Johnson, Samuel, *His Career and Writings*, ed. Herbert and Carol Schneider (New York, 1929), I, Appendix.

<sup>11</sup> Tuttle, *op. cit.*, p. 344.

ever, to have been no copy of Quintilian in the Harvard library before 1730. The Yale library received a copy in 1714, but there is no other conclusion justified than that the direct influence of Quintilian was almost negligible.

*The Influence of Petrus Ramus*

While the great classical triumvirate remained virtually unknown to the colonists, the educational doctrine and some of the writings of one Petrus Ramus<sup>12</sup> enjoyed tremendous favor in the colonies. One writer in 1661 refers to the "incomparable P. Ramus," and advises his collegiate nephew to "make use of the grand Mr. Ramus in grammar, Rhétorique Logick."<sup>13</sup> Cotton Mather writes that in Harvard, "the Ramean discipline be . . . preferred unto the Aristotelian."<sup>14</sup> Ramean works on grammar and dialectic were included in John Harvard's bequest, and were also in the library of Samuel Lee mentioned earlier. Thirteen copies of "Rami Logica" were imported into Boston in 1683.<sup>15</sup>

These works presented Ramus's beliefs on rhetoric in as complete a form as they are to be found, for Ramus wrote no formal rhetoric as a separate treatise. His feeling was that rhetoric was the least important member of the trivium, since it was concerned only with ornamenting the ideas given by logic, and already expressed correctly with the aid of grammar. All investigation, and even arrangement, are handed over to logic, because they pertain to mental processes. Accordingly, rhetoric is left only the parts concerned specifically with style

and delivery. Further, Ramus's antagonism to, and adverse criticism of Aristotle, Cicero, and Quintilian, tended to put his followers further from the classical tradition than even Ramus himself was willing to go. Rhetoric became to the Ramists only the art of using "daintie words and comely deliverie."

Much credit must go to Ramus for his stimulating influence on the thought and life of his time, but we can hardly praise his contribution to rhetorical theory, for the period of Ramean rhetoric in America was a period of rhetorical decadence, stressing only trope and figure, and far removed from the more active elements which the ancients had considered the very heart of rhetorical doctrine.<sup>16</sup>

The "official" Ramean rhetoric is the text of the great friend and colleague of Ramus, Omer Talon, or as he is more usually known, Audomarus Talaëus,<sup>17</sup> and it was widely popular in the colonies. It seems reasonably certain that this work was one of those used for the teaching of rhetoric at early Harvard. John Harvard's bequest contained a copy,<sup>18</sup> and another was in the library of Increase Mather.<sup>19</sup> A copy which is bound together with Ramus's Dialectics and Greek Grammar to make one volume is inscribed by Dudley Bradstreet with the date 1694.<sup>20</sup> This is strong evidence for use at Harvard, in that Bradstreet

<sup>16</sup> Watson, Foster, *The English Grammar Schools to 1660* (Cambridge, 1908), p. 449, has the following comment to make on Ramus: "The essential merit of Ramus, however, from the modern point of view, is that he forms the transition stage from the restriction of composition to classical subjects, to the widening of Rhetoric to include composition on all kinds of subjects, a movement which led to the inclusion of illustrations from the vernacular."

<sup>17</sup> Talari, Audomari, *Rhetorica, e. P. Rami Regii professoris praelectionibus observata* (Antwerp, 1582).

<sup>18</sup> *Harvard College Records* (MSS.), I, 261.

<sup>19</sup> Tuttle, *op. cit.*, p. 289.

<sup>20</sup> Morton, Arthur O., "Harvard Text Books and Reference Books of the 17th Century," *Publications of the Colonial Society of Massachusetts*, XXVIII, 424.

<sup>12</sup> Pierre de la Ramee, later known by the Latinized Petrus Ramus (1515-1572). One of the most helpful biographies is that by Frank P. Graves, *Peter Ramus and the Educational Reformation of the Sixteenth Century* (New York, 1912).

<sup>13</sup> Miller, Perry, and Johnson, T. H., *The Puritans* (New York, 1938), pp. 709-710, quoting a letter of Leonord Hoar written to his freshman nephew, Josiah Flint, March 27, 1661.

<sup>14</sup> *Magnalia*, II, 21.

<sup>15</sup> Ford, *op. cit.*, p. 151.

was graduated in 1698. It is also probable that this is the work meant in the letter of Mr. Hoar when he refers to the use of the "grand Mr. Ramus . . . in Rhetorique." In addition, Alexander Richardson's *Logician's Schoolmaster*, which contained much of Talaueus's rhetoric, is known to have been in the colonies in 1635.<sup>21</sup> Although all clues are slight, the work certainly was one of the first influencing American rhetorical thought.

In spite of Ramus's statement in the preface that the *Rhetorica* contains all of importance that Aristotle, Isocrates, Cicero and Quintilian have written on composition,<sup>22</sup> Talaueus presents only a most abbreviated and distorted picture of the classical doctrine. Ramus's definition, "Rhetorica est ars bene dicendi" is followed, as is his concept that rhetoric should treat only of style and delivery.<sup>23</sup> Talaueus also agrees with the Ramean tenet that all of the figures of thought should be dealt with only by logic, and there is left in his rhetoric only some twenty-five tropes and figures. These are treated, along with some mention of verse and prose rhythms, in about sixty pages, and the few remaining pages offer generalized comment on voice and gesture.

Despite the use and influence of Talaueus, the Ramean rhetoric seems to have been most popularly presented to the colonists through the text of William Dugard.<sup>24</sup> This work was a digest of Talaueus, which in turn was representa-

tive of Ramus, and although thus a third-hand Ramus, it was highly recommended and extremely popular in the colonies.

Fifteen copies were imported by Robert Boulter in Boston in 1682, and the following year ten more copies were imported by other booksellers.<sup>25</sup> There is a strong presumption that it was a school text-book as early as 1690.<sup>26</sup> The book is known to have been a grammar school text-book in 1712,<sup>27</sup> and it was listed in the Harvard course of study in 1726.<sup>28</sup> It was in use at Harvard in 1743,<sup>29</sup> and there is some reason to believe that it still had some use as late as 1764.<sup>30</sup> A Yale thesis of 1733 defines rhetoric in the exact language of Dugard, as do Harvard theses of 1708 and 1720.

All of these facts would seem to indicate that Dugard's work was a standard grammar school text-book during the early eighteenth century, and that it had fairly extensive use in the colonial colleges as well. The book follows in all respects the Ramean principles, treating the figures of speech in some thirty pages, and then devoting four to delivery.<sup>31</sup> Dugard follows, he explains in his pref-

<sup>25</sup> Ford, *op. cit.*, pp. 126-130.

<sup>26</sup> Norton, *op. cit.*, p. 366.

<sup>27</sup> Seybolt, R. F., *Public Schools of Colonial Boston* (Cambridge, 1935), p. 71.

<sup>28</sup> Benjamin Wadsworth's *Book Relating to College Affairs* (MS.), p. 28. Report of Tutors Flynt and Welstead.

<sup>29</sup> *The Holyoke Diaries, 1709-1856*, with an Introduction and Annotations by George Francis Dow (Salem, Massachusetts, 1911), p. 35. From the diary of Edward Holyoke, September 3, 1743: "This day our class began Dugan's Rhetoric." The word "Dugan" is undoubtedly a misprint for Dugard.

<sup>30</sup> Seybolt, R. F., "Student Libraries at Harvard, 1763-64," *P. C. S. M.*, XXVIII, 456. The book is listed as one of those claimed by students after the fire of 1764, and so, whether still used as a text or not, had been thought useful enough by some student to merit his bringing it to college with him.

<sup>31</sup> Dugard, William, *Rhetorices Elementa Quaestionibus et Responionibus explicata* (Editio Tricesima; Londini, 1705).

<sup>21</sup> Robinson, C. F. and H., "Three Early Massachusetts Libraries," *Publications of the Colonial Society of Massachusetts*, XXVIII, 133.

<sup>22</sup> Talari, Audomari, *op. cit.*, p. 3.

<sup>23</sup> *Ibid.*, pp. 5-6.

<sup>24</sup> *Rhetorices Elementa*, first issued in 1650. It passed through seven editions by 1673. William Dugard (1606-1662), was given his B.A. by Sussex College, Cambridge, in 1626, his M.A. in 1630. Famous as a teacher, he was Master of Stafford School in 1630, Colchester School from 1637 to 1643, and was chosen headmaster of the famous Merchant Taylors school in 1644.

ace, Butler's rhetoric,<sup>32</sup> which he maintains is a great improvement over Talaueus, but the improvement seems difficult to discover. In any case, the further abbreviated Ramean system presented by Dugard contributes little to the development of rhetorical theory.

*Vossius and his followers*

Although the Ramean concept of rhetoric was the leading influence in the early colonies, it had some competition from the great Dutch philosopher, Voss,<sup>33</sup> and his followers. Vossius's own rhetorical work<sup>34</sup> was not widely circulated among the colonists, but his views are presented, although with changes and omissions, in the more popular works of Thomas Farnaby.<sup>35</sup> His *Index* was listed for sale by Robert Chisholm in Boston in 1680.<sup>36</sup> "Farnaby Reth" was in the library of Samuel Lee in 1693.<sup>37</sup> A copy of the *Index* now in the Boston Public Library is endorsed, "Joseph Sewell his booke, 1705;" Sewell was graduated by

Harvard in 1707. Samuel Johnson lists "Farnaby's Rhetorick with English examples" in his reading for 1721.<sup>38</sup> The book was coupled with Dugard in the Harvard course of study for 1726, the tutors reporting that they used "Dugard's or Farnaby's Rhetorick."<sup>39</sup> These facts, and evidences of later use, seem to indicate that Farnaby, as Dugard, was of significant influence to early American rhetorical thought.

The book throughout is more advanced, or at least more complete, than that of Dugard. Farnaby reflects his association with Vossius, and he is probably influenced as well by the Jesuit teaching in the classical tradition which he had experienced. Although influenced by Ramean doctrines, he seems to attempt to convert them into his own thinking rather than to adopt them wholesale—his definition of rhetoric is not "ars ornate dicendi," but "facultas de unaquaque re dicendi bene, & ad persuadendum accomodate."<sup>40</sup>

The organization of the work follows the same bent toward the classical tradition. There is frequent reference to classical sources, and on the whole the book seems vastly superior to Dugard's digest.<sup>41</sup> It would seem to offer, in the hands of a capable tutor or scholar, a chance for a rhetoric filled with some of its old time vitality. Lest we judge its influence too highly, however, it should be noted that it was probably

<sup>32</sup> The only copy of Butler found to have been in the colonies during this period is that listed in the Harvard library catalogue of 1723. No other evidence of the use or influence of Butler has been found. Accordingly, the doctrine of Butler is not presented here. His doctrine is consistently Ramean, and his only contribution is his suggestion of the study of English literature. See Watson, Foster, *The English Grammar Schools to 1660* (Cambridge, 1906), p. 442, for a discussion of this.

<sup>33</sup> Vossius, Gerhard Johann (1577-1649). Vossius's rhetorical writings treat mostly of trope and figure, but there is a fairly adequate treatment of invention, disposition, and pronunciation as well, and the work is a store house of classical quotations, illustrating every side of the art of rhetoric.

<sup>34</sup> *Elementa Rhetorica oratorii ejusdem Partitionibus accomodata, inque usum scholarum Hollandiae & Westfrisiae.*

<sup>35</sup> Thomas Farnaby (1575?-1647), by 1629 was widely acclaimed as a schoolmaster and classical scholar. From 1639 to 1642 he was in repeated correspondence with Vossius. He edited many classical works and his own writings were numerous. The *Index Rhetoricus* was first issued in 1625, went through many editions, and was revised to the *Index Rhetoricus et Oratoribus* in 1646.

<sup>36</sup> Ford, *op. cit.*, p. 85.

<sup>37</sup> *The Library of . . . Samuel Lee, op. cit.*

<sup>38</sup> Johnson, *Career and Writings*, I, Appendix. The edition "with English examples" to which Johnson refers has not been found in the preparation of this study.

<sup>39</sup> Wadsworth, *op. cit.*, p. 26.

<sup>40</sup> Farnaby, *Index Rhetoricus et Oratoribus* (Londini, 1654), p. 2.

<sup>41</sup> Among the sources cited by Farnaby are Aristotle, Hermogenes, Dionysius, Longinus, Cicero, Quintilian, etc. The *Index* is called by Mair in his introduction to Thomas Wilson: "a small but exceedingly well-constructed book." (*Arte of Rhetorique* [Oxford, 1909], p. xix.)

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applied much as was Dugard.<sup>42</sup> The most that can safely be said is that it served as a reminder of the full tradition of rhetoric during a time when the abbreviated Ramean doctrine was the more popular.

*Miscellaneous Works Available in the Colonies*

Many other works of various types were available to the colonists, but although these works were more complete than the Ramean rhetorics, their influence seems to have been slight. One of the most popular was the *Formulae Oratoriae* of John Clarke.<sup>43</sup> The name of Nathaniel Mather (Harvard 1683) is written in a 1664 edition now in the Harvard Library. Another copy in the library, a 1659 edition, has "John Higginson, 1712" inscribed in it. Higginson was graduated in 1717. Twelve copies were sent to Boston by Robert Coulter in 1682.<sup>44</sup> William Adams took a copy of Clarke to Yale with him when returning for his second year.<sup>45</sup> It seems, however, to have been primarily a grammar school text, with only slight carry over into the colleges. Not so complete in rhetorical matter as the *Index*, the book has detailed instructions for composing themes, letters, and other grammar school exercises, along with specimens of the various exercises, and heads for a commonplace book.

Other works available with no evidence of extensive use include *De Elo-*

*quentia* by Nicolaus Caussisius,<sup>46</sup> Augustini's *Opera* in a Paris edition of 1637, Caesarii' *Rhetorica* in a colon edition of 1534, Tesmari's *Exercitationum Rhetoricum* in an Amstelod edition of 1657, and Trapezuntius' *Rhetoricum* in a London edition of 1647.<sup>47</sup>

The particular form of the rhetoric of trope and figure which one scholar has termed the "rhetoric of the scriptures"<sup>48</sup> was quite popular among the deeply reverent colonists. All of these works were within the Ramean tradition, and all were substantially alike—illustrating the elaborated list of the figures of academic rhetoric with quotations from the Bible.

The first of these rhetorics known to be in the colonies was Henry Peacham's *Garden of Eloquence*.<sup>49</sup> It was among the books included in John Harvard's bequest, and since it was among the earliest of the English rhetorics to be illustrated from the scriptures, it was assured a welcome in clerical New England. The greatest contribution made by Peacham is probably his use of the scriptures for illustration. This gave rhetoric more prestige with the colonists than any other treatment might have given it.

Probably the most popular of the rhetorics of the scriptures was that of John Smith.<sup>50</sup> Ten copies were imported by a Boston bookseller in 1683,<sup>51</sup> and there are frequent references to the work in

<sup>42</sup> The phrasing in the Harvard records was "Dugard's or Farnaby's Rhetoric" [italics mine], Wadsworth, *op. cit.*, p. 28.

<sup>43</sup> Clarke, John, *Formulae Oratoriae in usum Scholarum conconnitae, una cum multio Orationibus Declamationibus*. The *Short Title Catalogue* gives the date of the 4th edition as 1632. Watson suggests the date of 1627 (*op. cit.*, p. 454). The edition used for these notes is the London edition of 1659.

<sup>44</sup> Ford, *op. cit.*, p. 98.

<sup>45</sup> "Memoir of Reverend William Adams," *Massachusetts Historical Society Collections*, 4th series, I, 44.

<sup>46</sup> *De Eloquentia sacra et humana libri xvi* (London, 1651).

<sup>47</sup> *Catalogue . . . Harvardini*, 1723.

<sup>48</sup> Porter, G. Perrin, "The Teaching of Rhetoric in American Colleges before 1750" (Unpublished Ph.D. Dissertation, Department of English, University of Chicago, 1936).

<sup>49</sup> First printed in London, 1577. A much enlarged and revised edition was published in 1593. Potter, in his *Catalogue of John Howard's Library*, *op. cit.*, indicates the edition of 1577 as the one included in the Harvard bequest.

<sup>50</sup> *The Myserie of Rhetoric Unviel'd* (London, 1665).

<sup>51</sup> Ford, *op. cit.*, p. 126.



early colonial writings. As late as the middle of the 18th century it is highly recommended by Samuel Johnson,<sup>52</sup> and it was in the library of the second Boylston Professor of Rhetoric and Oratory at Harvard at the time of his death.<sup>53</sup>

The book offers little that is unusual other than the number of figures treated—upward of one hundred and thirty. Much reliance is placed on Farnaby for terms and examples, but most illustrations are taken from the scriptures. No effort is made to consider any other field of rhetoric than *elocutio*, or style.

Other rhetorics of this type might be mentioned,<sup>54</sup> but these two are representative, and Smith's seems to have been the only scriptural rhetoric attaining wide dissemination. Carrying forward the doctrine of trope and figure, the works were also important factors in the transfer of rhetoric to the vernacular, for unlike the other texts mentioned, these works were in English.

The rhetoric of *declamatio* was also carried into the colonies during the earliest period. The 1723 Harvard library catalogue lists the *Orator* of Alexander Silvayn, and the *Declamationes* of Beroaldi. These are collections of declamations, which, the authors feel, as did the 19th century elocutionists, if practiced enough by students, will make them effective speakers. The preface of Silvayn's work illustrates the point of view taken by both works, and the rhetorical doctrine they present. He offers to his reader:

... certaine Rhetoricall Declamations, the use whereof in every member of our Commonweale, is as necessary, as the abuse of wilfull ignorance is odious. In these thou maiest learne Rhet-

horicke to inforce a good cause, and art to im pugn an ill. In these thou maiest behold the fruits and flowers of Eloquence, which as *Tully saith in his orator, Bene constitutae ciuitatis est quasi aiumna: use them so they profit good reader, and accept them with as good a mind as I present them with a vertuous intent.*<sup>55</sup>

This is the extent of the rhetorical advice given, and the hundred declamations include most of the standard situations, ranging from the story of the two girls ravished by the same man on the same night, to the interesting situation of the Jew, "who would for his debt have a pound of the flesh of a Christian."

One of the earliest inquiries into the scientific nature of speech was also in the colonies, John Winthrop receiving from the Royal Society of London in 1670 a copy of William Holders' *Elements of Speech*.<sup>56</sup> The book was a forerunner of many of the later works in phonetics, for it makes a strong attempt to popularize a phonetic alphabet, suggesting that the use of a universal sound alphabet would simplify all teaching, and that such an alphabet is absolutely necessary in training the deaf to speak.

The material is interesting, and undoubtedly significant for the historian in voice science, but the single copy found in the preparation of this study

<sup>55</sup> *The Orator: Handling a hundred seuerall Discourses, in forme of Declamations: Some of the Arguments being drawne from Titus Liuius & other ancient Writers, the rest of the Author's owne inuention: Part of which are of matters happened in our Age, Englished by L. P.* (London, 1596). For a discussion of the authorship see McGrew, J. Fred ("A Bibliography of the Works on Speech Composition in England during the 16th and 17th Centuries," *Quarterly Journal of Speech*, XV [1929], 387-388).

<sup>56</sup> Holders, William, *The Elements of Speech: an essay of inquiry into the natural production of letters, with an appendix concerning persons Deaf and Dumb* (London, 1669). The book was sent Winthrop with the thanks of the Society for certain items which he had sent to London ("Correspondence of the Founders of the Royal Society with Gov. Winthrop of Connecticut," *Massachusetts Historical Society Proceedings*, 1st series, XVI, 244).

<sup>52</sup> Johnson, *Career and Writings*, I, 317.

<sup>53</sup> *Catalogue of the Select Library of the late Rev. Joseph M'Kean* (Boston, 1818).

<sup>54</sup> Bartholemew Westhemer's *Troporum, Schematorum, & sacrorum liber* (Basle, 1561), is listed in the Harvard catalogue of 1723, as is Robert Boyle's *Considerations on the Style of the Holy Scriptures* (London, 1668).

would not seem to indicate important influence in the colonies.

### *Rhetoric in the Colleges*

Further information on the development of rhetorical theory in America is to be found in an examination of the college requirements in rhetoric. From the earliest beginnings of education in the colonies, there seems to have been a place provided for rhetorical theory and practice. The first laws of Harvard College made provision for rhetorical study and practice. Friday was devoted to rhetorical studies, and it was further provided that "every schollar . . . declaim once a moneth."<sup>57</sup> Of note also is the item in the laws: "The Schollars shall never use the mother Tongue except that in publick Exercises of Oratory, or such like they bee called to make them in English."<sup>58</sup> Thus there was provided regular rhetorical study, in Latin, and provision was made for practice in declamation, also in Latin, while any speaking in English was considered exceptional. Some reason for the type of rhetoric studied, the rhetoric devoted to trope and figure above all else, may thus be seen. It must have been no small task to teach the colonists correct and polished Latin, one of the prime objectives of the colleges for many years. It was for this purpose that the rhetoric of trope and figure had much to offer in the relation to the study of "grammar," the ancient languages, and literature. The cultured class was trying to perpetuate Latin as its peculiar tongue, since it was still a necessary tool for reaching the stock of past learning, and the mark of an educated man. Rhetoric is seen subservient to this purpose all during this first period in American rhetorical theory.

Similar rules and requirements were

published in the college laws of Harvard in 1655,<sup>59</sup> and as late as 1726 the laws of Yale had the same requirement, that "no scholar shall use ye english tongue in ye Colledge with his fellow scholars unless he be Called to publick exercise proper to be attended in ye English tongue."<sup>60</sup> "Rhetoricke, Oratory, and Divinity" were required all through the courses of the colleges founded before 1730, but the rhetoric was always a rhetoric of Latin.

Late in the period there is some evidence of a growing student interest in speaking. At Harvard in 1719 the Spy Club was organized for student speaking practice.<sup>61</sup> The requirement that all speaking among the scholars should be carried on in Latin was almost impossible to enforce. Students were increasingly reluctant to take part in the scheduled declamations in Latin, while they voluntarily formed a club to gain speaking practice in English.<sup>62</sup> The stage was being set for a rhetoric less concerned with ornamentation, and more with persuasion.

### *Rhetorical Theses*

Further evidence of the kind of rhetoric favored in the colonies is to be found by an examination of the rhetorical theses defended by the graduates of the colleges in public commencement exercises.

"Rhetorica est ars ornatè dicendi" is the standard definition for rhetoric all through the period under discussion.<sup>63</sup>

<sup>59</sup> *The Lawes of the Colledge published publicquely before the Students of Harvard Colledge, May 4, 1655.*

<sup>60</sup> Reprinted in Dexter, F. B., *Biographical Sketches of the Graduates of Yale College with Annals* (New York, 1885), I, 347.

<sup>61</sup> Morison, S. E., *Three Centuries of Harvard* (Cambridge, 1936), p. 85.

<sup>62</sup> Complaints on the part of the trustees grow more and more frequent, and there are frequent fines levied for failure to participate.

<sup>63</sup> This is the exact wording of Harvard theses of 1708, 1720, and a Yale thesis of 1733, and it is echoed in dozens of others. This is Dugard's definition of rhetoric.

<sup>57</sup> *New England's First Fruits* (1643), reprinted in *Massachusetts Historical Society Collections*, 1st series, I, 245.

<sup>58</sup> *Harvard College Records*, III, 20.

There are slight variations, but all of the definitions made of rhetoric suggest strongly that the rhetoric taught was pre-occupied with style to the practical exclusion of all else, although a few theses, especially after 1720, foreshadow a change that comes with contact with works in the classical tradition.

Before 1720 there are only nine theses which are in conflict with Ramean doctrines. The Harvard thesis of 1717, which states that affairs of the forum are the object of rhetoric, is one of the first to see the object of rhetoric as persuasive and practical speech rather than elegant language. Such topics become more and more frequent as the shift away from Rameanism becomes more distinct. Only one earlier thesis, "The function of rhetoric is to apply the offerings of reason to the imagination,"<sup>64</sup> presents a radically different point of view from that of Ramus. The most popular early rhetorical texts were devoted to trope and figure, and the rhetorical theses lead us to the same conclusion: Rhetoric to the colonists before 1730 is predominantly the art of ornamenting speech, and its parts are *elocutio* and *pronuntiatio*.<sup>65</sup>

#### *Influence of English Rhetorical Theory*

An examination of critical studies of English rhetoricians or of English rhetorical theory during this same period

<sup>64</sup> Harvard, 1678. This is, of course, Francis Bacon's definition of rhetoric.

<sup>65</sup> The first thesis to contain an explicit statement of more than two parts of rhetoric does not come until 1748.

will reveal many of the same influences and emphases that we have found in American rhetorical theory and practice. During the same period in England the great stress seems to have been on style and delivery, just as in America; the emphasis in the study of style was in England also the study of the use of tropes and figures. There was no very extensive use of the classical works, although there was the same growing interest in the writings which were to lead to the revival of the classics during succeeding periods. It seems fair to say that trends in colonial rhetoric were essentially similar to those in England during the same period.<sup>66</sup>

One difference might be noted. Many writers on the development of English rhetorical theory stress the contribution made by Cox<sup>67</sup> and Wilson.<sup>68</sup> The outstanding fact in regard to the influence of these writers to the colonists would seem to be that they made no contribution. No record has been found in any library, public or private, which would indicate that either of these works was even in the colonies before 1730.

<sup>66</sup> Discussions of English rhetoric and rhetorical theory which would seem to indicate this similarity include: W. G. Crane, *Wit and Rhetoric in the Renaissance* (New York, 1937), pp. 57-79, 79-112; John Hoskins, *Directions for Speech and Style*, edited by Hoyt H. Hudson (Princeton, 1935), Introduction; Watson, *op. cit.*, pp. 86-98, 440-467.

<sup>67</sup> Cox, Leonard, *Arte or Crafte of Rhethoryke*. This work was the first English rhetoric and was published in 1524.

<sup>68</sup> Wilson, Thomas, *Arte of Rhetorique*. The first date of publication was 1553.

## WOODROW WILSON'S SPEECHES ON THE LEAGUE OF NATIONS, SEPTEMBER 4-25, 1919\*

CLAIR R. HENDERLIDER  
Western Reserve University

POPULAR reactions and the comments of qualified critics attest Woodrow Wilson's effectiveness as a public speaker. One of the most important and dramatic series of speeches in the President's long career occurred in September, 1919, when the Senate was debating participation by the United States in the League of Nations. Fearing that Senate opposition would succeed in repudiating world cooperation, Wilson took the issue to the people of the nation. By making a speaking tour through the Western states, the President hoped to rally popular support for the cause of world government.

This study is an evaluation of the speaking techniques employed by Wilson in thirty-three major speeches delivered in this series. It includes a consideration of the orator's background for the occasion; the sources and nature of his basic assumptions and main lines of argument; his forms of support, including ethical, emotional, and logical proof and refutation; the occasions and audiences to which the speaker attempted to adapt his arguments; his speech composition, involving methods of preparation, speech organization, and use of language; and his delivery.

### THE SPEAKER'S BACKGROUND

Wilson's preparation for the League controversy began early in life. Many of his attitudes on religion, his tastes in literature, his love of reading, and his

political and social tenets had their beginnings under the hegemony of his family. The greatest influence in Wilson's boyhood was his preacher-father, Dr. Joseph Wilson, under whose stern tutelage the boy's education was initiated. Young Wilson's filial affection was unusually deep.<sup>1</sup> His language facility may be partially explained by an early interest stimulated by his father. Wilson spoke to David Lawrence of the early efforts of his father to teach him to think before speaking and to choose words carefully.<sup>2</sup> References to the debt he owed his father occasionally appeared in Wilson's speeches.<sup>3</sup>

Wilson's formal training in speaking began at Davidson College, where he received his highest grades in composition, English, and declamation.<sup>4</sup> He joined the Eumenean Literary Society, where he participated in many debates and delivered several orations.<sup>5</sup> At Princeton, Wilson became a member of the famous Whig Society and maintained active membership throughout his years at that institution.<sup>6</sup> Fellow-student opin-

<sup>1</sup> Winthrop W. Daniels to Ray Stannard Baker, Baker, Ray S., *Woodrow Wilson: Life and Letters*, 8 vols. (Garden City, 1927-39), I, 30. Cited hereafter as *Life and Letters*.

<sup>2</sup> Lawrence, David, *The True Story of Woodrow Wilson* (New York, 1924), p. 18.

<sup>3</sup> Address before the Pennsylvania State Sabbath School Association, October 13, 1904. *The Public Papers of Woodrow Wilson*, 6 vols. eds. Ray Stannard Baker and William E. Dodd (New York, 1925), I, 478-79. Cited hereafter as *Public Papers*.

<sup>4</sup> Records of Davidson College, *Life and Letters*, I, 75.

<sup>5</sup> Records of the Eumenean Society of Davidson College, *Ibid.* I, 76.

<sup>6</sup> For a full account of his speaking activities, see Beam, Jacob H., *The American Whig Society of Princeton University* (Princeton, 1933).

\*From a dissertation, "An Evaluation of the Persuasive Techniques of Woodrow Wilson in his League of Nations Speeches, September 4-25, 1919," directed by Professor A. Craig Baird and submitted in partial fulfillment of the requirements for the degree of Doctor of Philosophy at the State University of Iowa, 1945.



ion of his work in the organization was high.<sup>7</sup> Wilson's activities in the Whig Society were not limited to formal exercises in speaking. One historian of the Whig Society believed that Wilson's greatest contribution lay in his active political work within the organization. He frequently led the discussions in business sessions and was a member of several important committees.<sup>8</sup> Although hard at work on the college newspaper and on his famous article, "Cabinet Government in the United States," he found time to organize a new group called the Liberal Debating Club. The constitution was composed and entirely written out by young Wilson.<sup>9</sup> While studying law at the University of Virginia, he became a member of the Jefferson Debating Society, delivered a notable oration on John Bright, and performed brilliantly in public debate. He was elected president of the debating society and headed a committee for its reorganization. Later, as a graduate student at Johns Hopkins, he participated actively in the Hopkins Literary Society and once again was responsible for constitutional revision.

Of considerable importance to Wilson's effectiveness as a speaker was his intensive reading, especially in his formative years. He matured in an intellectual environment, surrounded by many well-worn books. Early reading included *Pickwick Papers*, Scott's novels, and the *Bible*. Favorites in his college days were Bagehot and Burke. Throughout life, he read heavily in politics, government, his-

tory, biography, and education. The influence of this reading on his speeches and writings is unmistakable. Frequent references were made, for example, to the *Bible*, Burke, Bagehot, Adam Smith, John Stuart Mill, Shakespeare, and Bryce.

Wilson's skill in composition was the result of painstaking study and consistent practice. His first article, on John Bright, was published his sophomore year at Princeton. Subsequent publications included such political writings as *Congressional Government*, *The State*, and *Constitutional Government in the United States*; a series of essays;<sup>10</sup> and a group of historical writings, including *Division and Reunion* and *A History of the American People*. Not so well known to most readers are Wilson's fine book reviews and criticisms of writers.<sup>11</sup>

Although Wilson did not publish any systematized point of view on the art of oratory and public speaking, his works yield some fragments which indicate his views. He believed that oratory should be a means to an end rather than an end in itself.<sup>12</sup> In his opinion, the study of classical models constitutes the best method of speech training.<sup>13</sup> He echoed the philosophy of pre-eminence of thought, or ideas, over the mechanics of delivery,<sup>14</sup> and was conscious of the necessity of audience adjustment,<sup>15</sup> and of

<sup>10</sup> *Mere Literature and Other Essays* (Boston, 1896); *An Old Master and Other Essays* (New York, 1893); *When a Man Comes to Himself* (New York, 1915).

<sup>11</sup> Several of these appeared anonymously in the *Atlantic Monthly*, *Forum*, and other journals. They include his reviews of Bryce's *Commonwealth* (1889); Burgess' *Political Science and Comparative Constitutional Law* (1891); Boutmy's *Studies in Constitutional Law* (1891); John T. Morse's *Abraham Lincoln*; Rhodes' *History of the United States* (1893); and criticism, vitriolic in nature, of Goldwin Smith's writings (1893).

<sup>12</sup> *The Princetonian*, June 7, 1877, p. 42, quoted in *Life and Letters*, I, 93.

<sup>13</sup> *Ibid.*

<sup>14</sup> "John Bright," *Public Papers*, I, 48.

<sup>15</sup> Wilson to Ellen Axson, October 30, 1883. *Life and Letters*, I, 186-87; "Mr. Gladstone:

<sup>7</sup> One student recalls that "he steadily grew in the estimation of his fellow members until he was recognized as the best debater in the society—always with full and ready knowledge of the question and with unequalled facility in clear expression. He was especially effective in extemporaneous debate." Frank Glass to Ray S. Baker, *Life and Letters*, I, 94.

<sup>8</sup> Beam, *op. cit.* p. 193.

<sup>9</sup> Baker reports this document to be in the possession of Dr. Hiram Woods, a member of the club.



self-controlled, conversational delivery.<sup>16</sup>

Wilson made a favorable impression upon his classes as a lecturer at Bryn Mawr, Wesleyan, and Princeton.<sup>17</sup> As he became better known, the professor was in constant demand as a speaker, and faced many and diverse audiences on a variety of subjects. Concentrated speaking experience continued throughout his long career as President of Princeton, his term as Governor of New Jersey, and his two terms as President of the United States. In 1919, he had a reputation as one of the country's leading orators.

Wilson's training for the speeches on the League, therefore, began early in life. His ideas grew out of long and rigorous academic training and reading, as well as experience in public life. His skill as a speaker was the result of many years of conscientious training and practice; his oral language was the product of extensive practice in written and oral composition.

#### THE SPEAKER'S IDEAS AND THEIR SUPPORT

Wilson's decision to take the issue of the League of Nations to the people was made in the face of determined and increasing Senate opposition. The President was convinced that anti-League sentiment, which was delaying a vote and prolonging debate, was confined to the Senate. In carrying out his speaking tour, he hoped to stimulate interest and activate public approval which would force the Senate to accept the League.

A Character Sketch," *Public Papers*, I, 82-83; "An Interpreter of English Liberty," *Mere Literature*, p. 134.

<sup>16</sup> "John Bright," *Public Papers*, I, 50-51; "An Interpreter of English Liberty," *Mere Literature*, p. 138.

<sup>17</sup> Mrs. Arthur H. Scribner to Ray S. Baker, *Life and Letters*, I, 262; Mary Tremain to Ray S. Baker, I, 262; Raymond B. Fosdick to Ray S. Baker, II, 10; Breckinridge Long to Ray S. Baker, II, 11-12; Payton Cochran to Ray S. Baker, II, 12.

#### The Occasion

The early years of World War I found the United States officially neutral but actually deeply influenced by a struggle which mounted in intensity. Realization by certain leaders of the catastrophic nature of the conflict gave rise to ideas which might prevent future wholesale destruction. Early in 1915, the League to Enforce Peace was founded to crusade actively for some type of world organization.<sup>18</sup> Similar goals were also visualized by leaders in Germany and Austria, who, shortly before the Armistice, appealed to the President to make peace on the basis of the principles outlined in his peace address.<sup>19</sup> Wilson's early days at the Peace Conference were disappointing. A slump in idealism, secret commitments among the great powers,<sup>20</sup> and a return to the philosophy and practice of power politics dampened Wilson's idealism and forced him finally to accept the ultimate settlement in the hope that the League might rectify the injustices of the treaty. While the President fought bitterly in Europe for the League, he was attacked vitriolically in the United States Senate, where extended debates took place on the Fourteen Points and the proposed League.<sup>21</sup> The Chief Executive hoped for early ratifica-

<sup>18</sup> A detailed account of the activities of this organization appears in Marburg, Theodore, *Development of the League of Nations Idea* (New York, 1932), II, 703-17; see also: Chan, Hugh, "American Agitation for a League of Nations, 1914-22," Ph. D. Dissertation, State University of Iowa, 1934, pp. 32-67.

<sup>19</sup> *New York Times* (October 7, 1918), pp. 1-2.

<sup>20</sup> For a discussion of the secret treaties and their terms, see: Baker, Ray S., *Woodrow Wilson and World Settlement*, 3 vols. (Garden City, 1922), I, 23-81.

<sup>21</sup> For a detailed account of the debates with special emphasis on the part played by William E. Borah, see: Braden, Waldo W., "A Rhetorical Criticism of Invention of William E. Borah's Senate Speeches on the League of Nations, 1918-20," Ph. D. Dissertation, State University of Iowa, 1942, *passim*. Also: Braden, "William E. Borah's Senate Speeches on the League of Nations, 1918-20," SM, X (1943), 57-68.

tion following his return to the United States, but weeks passed with the Senate deadlocked. Although Senator Hitchcock believed the situation was encouraging to the administration,<sup>22</sup> the President was deeply disturbed by the Senate's lack of positive sanction. He believed, however, that the isolationist bloc did not represent the wishes of the people as a whole, and that there was sentiment for acceptance that needed only to be aroused.<sup>23</sup> In the hope of breaking the Senate impasse, Wilson decided to appeal directly to the people for action in a "swing around the circle," which would carry him to the principal cities in the Middle-West, Far-West and South.

#### *The Audience*

What attitude did the American people hold toward the League of Nations? What groups were actively engaged in attempting to marshall public sentiment either for or against the League? What were the reactions of specific audiences to Wilson's plea? Not the least of the organized pro-League forces was the League to Enforce Peace.<sup>24</sup> Thirteen state legislatures endorsed its principles during 1919; seventeen acted similarly during 1917-1918.<sup>25</sup> In March, 1919, the League issued a statement claiming that one hundred and fifty newspapers, interpreting the sentiment of the regions they served, found people outspokenly in favor of the League of Nations.<sup>26</sup> Other groups, representing business,<sup>27</sup> labor,<sup>28</sup> agriculture,<sup>29</sup> churchmen,<sup>30</sup> edu-

cators and students,<sup>31</sup> expressed vigorous endorsement. Anti-League sentiment was confined for the most part to German-American, Italian-American, and Irish-American groups and the United States Senate. Although various polls indicated that a majority of the people favored the League, ignorance and lack of interest in large areas, especially in the isolationist Middle-West, proved to be the greatest barriers the President had to overcome.

The Covenanter was greeted enthusiastically by the audiences who attended thirty-three major speeches delivered in seventeen states. Heartening response was received in the isolationist Middle-West,<sup>32</sup> and continued to be favorable in the North-West,<sup>33</sup> although the President was forced there to cope with social unrest and the infiltration of radical doctrines.<sup>34</sup> As the speaker moved to the Far West, he invaded territory represented by some of his strongest Senatorial opponents. Reactions continued to be favorable, however, both there and in the Mountain states. Observers agreed that Wilson enhanced the cause of the League wherever he appeared.<sup>35</sup>

#### *Premises and Lines of Argument*

Wilson's arguments for the League were based upon a long-held belief in international cooperation, which was to be aided and facilitated by a nationalism of moderation, sympathetic to and aware of the nation's place in the world family.

<sup>31</sup> *New York Times* (September 15, 1919), pp. 1, 3.

<sup>32</sup> *Ibid.* (September 5, 1919), pp. 1-2; (September 6, 1919), pp. 1-2; (September 7, 1919), pp. 1, 7; (September 9, 1919), p. 4; (September 10, 1919), p. 1.

<sup>33</sup> *Ibid.* (September 11, 1919), p. 1; (September 12, 1919), p. 1; (September 13, 1919), p. 2; (September 14, 1919), p. 1; (September 16, 1919), p. 1.

<sup>34</sup> *Ibid.* (September 11, 1919), p. 1.

<sup>35</sup> *Ibid.* (September 8, 1919), p. 1; (September 13, 1919), p. 2; (September 19, 1919), p. 1; (September 20, 1919), p. 3; (September 22, 1919), p. 3; (September 24, 1919), p. 5.

<sup>22</sup> *New York Times* (September 4, 1919), p. 2.

<sup>23</sup> *Ibid.*

<sup>24</sup> For the official plan of action of this organization, see: *Cong. Rec.*, Vol. 58, Pt. 2, pp. 2063-2064.

<sup>25</sup> *New York Times* (April 19, 1919), p. 2.

<sup>26</sup> *Chicago Tribune* (March 17, 1919), p. 1.

<sup>27</sup> *New York Times* (September 15, 1919), p. 1; *Cong. Rec.*, Vol. 58, Pt. 8, pp. 7486-7487.

<sup>28</sup> *New York Times* (June 21, 1919), p. 3.

<sup>29</sup> *Ibid.* (May 6, 1919), p. 2.

<sup>30</sup> *Literary Digest* 63 (November 29, 1919), pp. 35-36.

As early as 1887, the future President voiced his endorsement of tendencies toward confederation to insure greater good for member groups.<sup>36</sup> He stated in 1902, "We have come to our full maturity. . . . And the day of our isolation is past."<sup>37</sup> In 1908 he joined the American Peace Society, and publicly endorsed the League to Enforce Peace in 1916. Influenced by President Eliot of Harvard, Lord Bryce, and Colonel House, he began serious study of the problem of world organization, and gave public pronouncement to his principles in the Fourteen Points and Four Points Addresses.

In connection with the spirit of internationalism a prominent vein of nationalism ran through Wilson's speeches and writings.<sup>38</sup> This concept did not include blind loyalty to one's state to the point of subordination of other loyalties. Wilson vehemently denounced nineteenth century chauvinism. His philosophy of nationalism was characterized by a firm belief in the "mission" of the United States to lead the other nations of the world in the realization of internationalism. Such a concept of nationalism is not destroyed by international cooperation, but lives on to serve in the interests of internationalism.

Wilson's support of the mandate system and his plea for "self-determinism" stemmed from his belief in the supreme sovereignty of the people. Fear of autocracy and belief in representative, constitutional government with supreme and final authority residing with the people appeared in his earlier papers.<sup>39</sup> These principles underlay the President's

attitude on both the Mexican question during his first term, and his defense of the German people during the earlier days of the war.

Evolving from these basic tenets, Wilson's main lines of argument on the Western Tour fell into four broad categories: exposition of the machinery and provisions of the League and treaty; arguments for joining the League; dangers of rejection of the League; and replies to objections raised against the League. The first of these included his explanations of the operation of the League and his enumerations of the various humanitarian reforms incorporated in the League and treaty. Such exposition seems justified and necessary, in view of the widespread ignorance of the provisions and mechanics of the peace settlement. An important argument for adoption was the speaker's contention that the League was American in nature and spirit; he identified the new proposal with revered American principles of liberty, freedom, equality, democracy, minority protection, self-determination, discussion and arbitration.<sup>40</sup> He also declared that America must lead in rehabilitating the world, that the United States was the only trusted nation in the world and the only nation able to lead the world out of the confusion and bewilderment of 1919.<sup>41</sup> In other arguments for the League, Wilson declared that the League would guarantee peace;<sup>42</sup> that the League would provide for self-determination, political independence and territorial integrity for all nations;<sup>43</sup> that Article XI would provide popular world-wide participation in affairs of the

<sup>36</sup> *Public Papers*, I, 157-158.

<sup>37</sup> *Ibid.* I, 441. Also in *Atlantic Monthly* 90 (December, 1902), 734.

<sup>38</sup> *Public Papers*, I, 402; II, 410; III, 147; III, 371; IV, 9-10; IV, 44; V, 14. Wilson to Roy Howard, January 16, 1918, *Life and Letters*, VII, 474.

<sup>39</sup> *Public Papers*, I, p. 396; II, 64.

<sup>40</sup> Indianapolis, *ibid.* V, 616; Reno, VI, 344; Sioux Falls, VI, 52.

<sup>41</sup> Bismarck, *ibid.* VI, 93; Tacoma, VI, 174-75.

<sup>42</sup> Used in twenty-three speeches on the tour.

<sup>43</sup> Used in twenty-four speeches. See in particular: Omaha, *Public Papers*, VI, 31-32; Spokane, VI, 151-52; San Francisco, VI, 244.

world;<sup>44</sup> and that the United States must join for its own economic interest as well as that of the world.<sup>45</sup> Arguments against rejection included somber warnings against the dangers of economic stagnation, militarism, armament, dictatorship, and other consequences of rejection, all leading to eventual war.<sup>46</sup> Replies to attacks by Irreconcilables on such League and treaty provisions as the Shantung settlement,<sup>47</sup> Article X,<sup>48</sup> state sovereignty in domestic affairs,<sup>49</sup> the large British vote,<sup>50</sup> and the place of the Monroe Doctrine,<sup>51</sup> are among the effective arguments falling into the fourth category.

### *Proofs and Refutation*

President Wilson relied predominantly upon types of inductive reasoning for logical support. Greatest use was made of causal relationships. The speaker's most important cause-to-effect relationship was established, quite effectively, by showing that the League (cause) would result in removing many evils and making the world a better place (effect).

He told his audiences that the League would rectify the causes of war. Several subordinate arguments involving cause-to-effect relationship were used to establish the argument above. He argued, for example, that the system of land grabbing and domination of the weak by the strong would be prevented by Article X, which guaranteed land titles and prevented aggression.<sup>52</sup> Alternatively, Wilson argued that the world without the League (cause) would give rise to militarism, excessive taxation, dictatorship, commercial stagnation and eventual war (effect).<sup>53</sup> The speaker's principal effect-to-cause argument was used in presenting the causes of war and international chaos. He declared that war and chaos (effect) were the result of the old system of imperialism, extreme nationalism, commercial stagnation and militarism (cause). The World War, said the President, was no accident. It was the inevitable result of the conception that the strong had all the rights.<sup>54</sup> Breaking down this argument, Wilson warned that revolution is caused by suffering and chaos bred of the old system,<sup>55</sup> that radicalism is a system of a basic, underlying condition of chaos and instability throughout the world.<sup>56</sup> Effect-to-effect reasoning was called upon to establish the speaker's argument on the Russian Revolution, on the danger of playing a lone hand with Germany, and on making the same mistakes as the Congress of Vienna. He examined the bloody and chaotic condi-

<sup>44</sup> Best discussed at Indianapolis, *ibid.* V, pp. 617-18; and Salt Lake City, VI, p. 361.

<sup>45</sup> Wilson's economic philosophy of the peace is revealed in the proceedings of some of the secret meetings at the Paris Conference. See: Secret Minutes, Council of Four, June 9, 1919, *Woodrow Wilson and World Settlement*, II, 405; Secret Minutes, II, 498-99. Best and most detailed treatment of this problem was at St. Louis and at St. Paul.

<sup>46</sup> Coeur D'Alene, *Public Papers*, VI, 142; Portland, VI, 213; St. Louis, V, 638-640; Bismarck, VI, 90, 98.

<sup>47</sup> See the Los Angeles speech for an example of the detailed treatment given this problem, particularly on the West Coast, *ibid.* VI, 314-19. Excellent background discussions of the controversy appear in Griswold, A. Whitney, *The Far Eastern Policy of the United States* (New York, 1938), *passim*; Willoughby, Westel W., *The Sino-Japanese Controversy and the League of Nations* (Baltimore, 1935), *passim*.

<sup>48</sup> Indianapolis, *Public Papers*, V, 610-11; Des Moines, VI, 25-26; San Diego, VI, 293.

<sup>49</sup> Helena, *ibid.* VI, 132; San Diego, VI, 284-85.

<sup>50</sup> Spokane, *ibid.* VI, 159-161; San Diego, VI, 285-86.

<sup>51</sup> Omaha, *ibid.* VI, 38-39; Salt Lake City, VI, 348-49.

<sup>52</sup> Columbus, *ibid.* V, 594-97; Sioux Falls, VI, 48-49; St. Paul, VI, 76-84; Coeur D'Alene, VI, 138-42; Spokane, VI, 151-55; San Diego, VI, 277-81.

<sup>53</sup> St. Louis, *ibid.* V, 634-40; Billings, VI, 106-08; Portland, VI, 195-97.

<sup>54</sup> St. Louis, *ibid.* V, 622; Sioux Falls, VI, 45-47; Helena, VI, 118-136; San Francisco, VI, 218-220; Minneapolis, VI, 66-72.

<sup>55</sup> Columbus, *ibid.* V, 598; Des Moines, VI, 14-15; Seattle, VI, 192-193.

<sup>56</sup> Billings, *ibid.* VI, 111; Seattle, VI, 192-193; Des Moines, VI, 14-15.



tions in Bolshevik Russia and warned that the same conditions might well develop in the United States as the result of the same causes, if the League were rejected.<sup>57</sup> Projecting his thoughts to the future, the Covenanter asked his audiences to picture a world united with the exceptions of Germany and the United States. The effects of isolation on these two countries might well drive them together, he said, and permit Germany to rearm and take advantage of the disunity to inaugurate further aggression.<sup>58</sup> Wilson was evidently aware of the persuasive power of analogy. His League speeches are replete with them. Figurative analogies predominate, although there are a number of excellent literal analogies. Literal analogies were drawn between the American fighting men who saved the world and the Crusaders who also set out to save the world;<sup>59</sup> between the spirit of America and the spirit of the League;<sup>60</sup> between a covenant-breaking nation and a covenant-breaking man;<sup>61</sup> and between guaranteeing land titles in South Dakota and guaranteeing international boundaries.<sup>62</sup> Wilson's figurative analogies were particularly effective. He succeeded in drawing analogies between abstract political principles and homely, everyday situations unmistakably familiar to his listeners. For example, he compared the "cooling off" period in the League machinery to the two men who decided to postpone every desire to indulge in profanity until they reached the city limits. By the time they arrived, the desire to swear had vanished.<sup>63</sup> Isolation, Wilson declared, was like boys looking under circus tents, like

men declining to pay admission to a game and watching from the roof.<sup>64</sup> He compared the value of free discussion to the value of hiring a hall for a man whom you suspect is a fool. Popular hearing will settle the problem in both cases, he concluded, and avoid much trouble. The President did not make extensive use of generalization involving enumeration of specific instances. On occasions when he did, the instances were usually few in number and in most cases highly developed individually. This type of argument was used in establishing his contention that the treaty put peoples, not nations, first; that no nation could be self-sufficient; that an important cause of war was the maltreatment of small nations; and that chaotic world conditions might well spread to the United States. Wilson used authority sparingly. Quotations, direct or indirect, were used less than twenty times in the thirty-three speeches. In no case did the speaker use an authority as the sole basis for a generalization. Instead, quotations were used primarily for illustrative purposes.

The President enhanced his ethical appeals by pointing up his official authority and experience as President and leading peacemaker. He also eulogized the men who aided him in drafting the Covenant. Trust in his character was established by identification of the speaker with the American "way of life" and with well-known principles of moral and ethical conduct. Good will was sought by high compliment of specific audiences, a non-partisan attitude, a display of modesty, and respectful reference, for the most part, to his opposition.

The Covenanter skillfully adapted his arguments to the fears, aspirations, dislikes, and predilections of his listeners to further the acceptability of his rea-

<sup>57</sup> Kansas City, *ibid.* VI, 6-7; Des Moines, VI, 14-15; Billings, VI, 108; Seattle, VI, 192-193.

<sup>58</sup> Portland, *ibid.* VI, 212-213; Los Angeles, VI, 302-303.

<sup>59</sup> Des Moines, *ibid.* VI, 21.

<sup>60</sup> St. Paul, *ibid.* VI, 88-89.

<sup>61</sup> Kansas City, *ibid.* VI, 3.

<sup>62</sup> Sioux Falls, *ibid.* VI, 51.

<sup>63</sup> Des Moines, *ibid.* VI, 28; St. Paul, VI, 81-82.

<sup>64</sup> Portland, *ibid.* VI, 197.

soning and to motivate action. He employed at least six major motive appeals: fear of the consequences of rejecting the League and returning to the old system of international anarchy and war; indignation at the injustices of the former system; pity of the plight of the denizens of small nations; duty to the world, to our fighting men, to justice, liberty, and the other high ideals for which we fought; pride in the United States and its tradition; and, profit from the removal of international chaos and from participation in international economic intercourse.

The President's methods of refutation included charges of ignorance and inaccuracy in his critics' arguments, and exposure of such forms of question-begging and question-ignoring as false synthesis, use of appeals to passion and prejudice, appeals to tradition and custom, and discussion of personalities. He employed with equal skill the methods of *reductio ad absurdum*, exposing inconsistencies, residues, and adoption of the opposition's arguments. In the writer's opinion, he effectively disposed of most of the charges made by opponents of the League.

#### SPEECH COMPOSITION

##### *Speech Preparation*

Woodrow Wilson, upon breaking into political life, became the rare instance of a theorist given a chance to initiate and carry out actively his ideas. For many years a scholar in the fields of political science and history, the President developed his major premises, lines of argument and supporting materials over a period of many years. He was not forced to search frantically for ideas and arguments for their support. Particularly was this true of Wilson's preparation for his Western Tour in 1919. His ideas on nationalism, internationalism, the League of Nations, self-determination

and moral obligation, were products of the speaker's deeply rooted ethical and political philosophy, in the process of development since early college days. The Western Tour had been arranged hastily, and the pressure of business at the White House had precluded any specific preparation. No texts, therefore, were prepared. Wilson spoke extemporaneously and seldom brought notes to the speaker's stand.<sup>65</sup> So excellent was the President's extempore preparation that he almost never edited a stenographic report of a speech.<sup>66</sup> Although the thirty-three speeches were all delivered on the same general subject, so resourceful was the President in grouping arguments that reporters were continually impressed with his ability to say the same thing in so many different ways.<sup>67</sup>

##### *Organization*

Wilson attempted to organize his speeches to meet the needs of each situation. His introductions were designed to capture and retain audience attention by reference to the chairman's remarks, complimentary allusion to the audience and occasion, and clarification of his purpose. His thesis, occasionally omitted, frequently followed closely the introduction, but sometimes appeared after a narrative passage.

The bodies of the speeches were arranged with some success to meet the needs of specific audiences. Although the same arguments were repeated throughout the speeches, emphasis on certain of them varied in terms of "space" and "place," depending essentially upon the particular audience faced by the speaker.

<sup>65</sup> He used a small typewritten sheet for the first time in the St. Louis speech delivered at the Coliseum. *New York Times* (September 6, 1919), p. 2.

<sup>66</sup> *Life and Letters*, VI, 22; Lawrence, *op. cit.*, pp. 55-56.

<sup>67</sup> Lawrence, *op. cit.*, pp. 55-56.

The President's speeches followed, roughly, one of these orders of development:

1. Introduction, Thesis, Body, Conclusion.
2. Introduction, Thesis, Body, Refutation, Conclusion.
3. Introduction, Refutation, Thesis, Body, Conclusion.
4. Introduction, Thesis, Body, Narration, Conclusion.

The second order predominated.<sup>68</sup> Some rambling and repetition were at times apparent. In some cases, refutation was sprinkled throughout the speech.<sup>69</sup> In others, after eulogizing the League, the President turned to refutation of the opposition, only to return, as though in after-thought, to other benefits of the League not previously mentioned.<sup>70</sup> Similarly, at Cheyenne, Wilson argued that America must lead the way, and followed with refutation of several of the arguments of the opposition, then returned repetitiously to the argument that America must lead. His arrangement of arguments would have been more effective, in the writer's opinion, had he avoided repetition and grouped together more compactly inter-related materials. Rambling could have been avoided by placing together all constructive arguments in a unit separated from another, which would consist of carefully arranged refutatory material. Wilson made some attempt to adapt his placement of arguments to specific audiences. Considerable emphasis was given to the Shantung controversy as the President toured the West coast, where feeling on the subject was intense. In the North-West, where

radicalism was gaining support and the people were in a state of unrest, Wilson declared that such conditions could not be combatted until their causes, rooted in world unrest, were removed by the League. At St. Louis, speaking to the Chamber of Commerce, the Chief Executive stressed the economic and financial rejuvenation which this country would enjoy under the League. In making these adaptations, nevertheless, the speaker emphasized the argument in question primarily by increasing the time spent on it, rather than by placement of the argument. It is possible that by placing it near the beginning or end, Wilson might have secured greater persuasion.

Wilson's conclusions were in some respects the most eloquent parts of the speeches. In almost every case the conclusion served as a climax heavily charged with pathetic proof. Examination indicates that they were more carefully conceived than were certain other sections. These conclusions were characterized by a single purpose: to provide a final, climactic plea for belief in the League and for immediate action by the United States Senate on ratification of the treaty. One plea frequently used to increase acceptability and motivate action was that of linking the League with "Americanism."<sup>71</sup> Another motive for acceptance was supplied when, in several conclusions, the Chief Executive painted in glowing and sometimes flamboyant terms a picture of the better times to come upon acceptance.<sup>72</sup> To secure as much Republican support as possible, the speaker urged in other perorations that the League be made a non-partisan issue.<sup>73</sup> Acceptance was also urged in

<sup>68</sup> First order: Columbus, *Public Papers*, V, 590-605.

Second order: St. Paul, VI, 57-66; Helena, VI, 115-137; Billings, VI, 102-115; San Francisco, VI, 217-232; Oakland, VI, 265-277; Sioux Falls, VI, 44-57; Los Angeles, VI, 310-325.

Third order: St. Louis, V, 620-634.

Fourth order: Minneapolis, VI, 66-76.

<sup>69</sup> St. Paul, *ibid.* VI, 57-66.

<sup>70</sup> Reno, *ibid.*, VI, 326-345.

<sup>71</sup> St. Louis, *ibid.* V, 645; Portland, VI, 212; Reno, VI, 344.

<sup>72</sup> Des Moines, *ibid.* VI, 30; Omaha, VI, 43-44; Minneapolis, VI, 75-76; Pueblo, VI, 415-416.

<sup>73</sup> Spokane, *ibid.*, VI, 163; Denver, VI, 398.

order that the horrors of war and chaos need never be suffered again, and that our boys shall not have "died in vain."

### Language

The President's sentences were somewhat longer than is generally considered effective in oral language. While some passages contained groups of short sentences, in other instances sentences were unusually long.<sup>74</sup> Although the Covenant used many simple sentences, the majority were of the complex or complex-compound nature.<sup>75</sup> In general, Wilson revealed a preference for the rhythmical periodic structure. The speeches abound with such periods as "Where it was not actually laid in ruins, every factory was gutted in its contents," and "The most terrible thing that can happen to an individual, and the most conclusive thing that can happen to a nation, is to be read out of decent society." An abundance of well-developed parallelism<sup>76</sup> and occasional use of the balanced sentence<sup>77</sup> added a pleasing rhythm to the speaker's language. Although pedantic, esoteric words had appeared freely in Wilson's college lectures and on the academic platform, his political oratory was characterized by simple, common words. With few exceptions, his language was simple enough to be

understood by the Western audiences.<sup>78</sup> Such common usages as "put up or shut up," "crooks," "hook line and sinker," and "nobody monkeys with the process," probably served as good audience adaptation. The Chief Executive strove to reduce abstractness by explanation and illustration. Greater concreteness and objectivity would have been achieved had he avoided excessive use of such abstract words as "heart," "principles," "justice," "right," "honor," "liberty," "independence," and "responsibility." Despite the use of many clichés and trite phrases,<sup>79</sup> Wilson achieved a degree of originality in language by the use of many descriptive adjectives and by vivid, colorful metaphors and similes. On the whole, the speeches were excessively wordy and repetitious. On occasion, crisp and pointed sentences and words were reminiscent of the heralded language of the President's more famous speeches. His language in this series was uniquely intimate and direct. Personal pronouns, direct questions and rhetorical questions, interrogation and personification were used freely.

The President's speech composition failed to equal the standard set in some of his earlier speeches. In spite of certain shortcomings in organization and desired improvements in language, the speaker's well-adapted introductions, moving conclusions, large and vividly illustrative vocabulary and unique quality of directness served to strengthen materially his persuasive power.

### DELIVERY

Did the President's manner of speaking contribute to his effectiveness? Wil-

<sup>74</sup> One sentence contained 199 words. San Francisco, *ibid.* VI, 255-256.

<sup>75</sup> Runion analyzed the language employed by Wilson in selected speeches. Of the speeches on the Western tour only Columbus is included. Runion, Howard, "An Objective Study of the Speech Style of Woodrow Wilson," Ph.D. Dissertation, University of Michigan, 1936. Also in SM 3 (1936), pp. 75-94.

<sup>76</sup> "The immediate need of this country and of the world is peace, not only, but settled peace, peace upon a definite and well-understood foundation, supported by such covenants as men can depend upon, supported by such purposes as will permit of a concert of action throughout all the free peoples of the world." San Francisco, *Public Papers*, VI, 250.

<sup>77</sup> "Govern the sentiments of mankind and you govern mankind." Sioux Falls, *ibid.* VI, 54.

<sup>78</sup> Simpler synonyms might well have been substituted for "genuflection," "estoppel" and "miasmatic."

<sup>79</sup> For example: "go to their death," "I call you to witness," "in the last analysis," "profound pleasure," "I want to remind you," and "my fellow-countrymen."



son's voice usage provoked varying comment, generally favorable. His recorded voice, in the writer's opinion, lacks resonance, variety in pitch change and variation in rate.<sup>80</sup> His voice did not always reach the periphery of large audiences,<sup>81</sup> and he was often forced to abuse his voice and use all his energy to make himself heard.<sup>82</sup> The Chief Executive's articulation was clear and precise, and his pronunciation was unfailingly correct.<sup>83</sup> He adhered to the broad, Italian pronunciation of "a" (as in "father") in a great number of words.<sup>84</sup> Whether such pronunciation added or detracted from his effectiveness on the Western Tour is difficult to determine. It is possible that such speech was considered "affected" or "artificial." On the other hand, such usage may have added to the aura of "culture," "good breeding," and "distinction," which surrounded the President wherever he went.<sup>85</sup> Wilson's appearance and bodily action were approved by his listeners. He stood firm and erect, but not stiffly or unnaturally. His gestures were restrained and lacked variety. Index-finger gestures with the right arm predominated.<sup>86</sup> In moments

of emotion and at points of climax the President achieved considerable expressive action of body and face.<sup>87</sup> Pedantic and somewhat inhibited in early years, Wilson revealed his ability to adjust his delivery to the requisites of political oratory. Although the President was reticent in commenting on his delivery, preferring to mention only his shortcomings,<sup>88</sup> his audiences gave definite approval of his manner of speaking. Wilson's delivery, therefore, undoubtedly aided in his attempt to secure audience acceptance of his ideas on the Western Tour.

#### CONCLUSIONS

What shall be our final estimate of Wilson's speaking on behalf of the League? His strength lay in his recognition of the obsolescence of the nineteenth century American foreign policy and his consequent ardent plea for a policy of internationalism, facilitated by tempered nationalism, and rooted in a recognition of the supreme sovereignty of the people. In support of these postulates, the President fashioned powerful arguments supported by sound logic and powerful motive appeals. His language was characterized by much parallelism, unusual directness, occasional abstractness, some originality and adequate conciseness. It failed to equal the standard set in the War Message and other earlier performances. His organization was traditional, though occasionally rambling and repetitious, growing particularly apparent as the speaker's collapse became imminent. Organizational adaptation to specific audiences was not always effective. Pedantic and inhibited

<sup>80</sup> Such judgment should be accepted with reservation, since recording equipment at that time lacked high fidelity and since the President believed he was not at his best when speaking into a phonograph. Wilson to Tumulty, August 24, 1917, *Life and Letters*, VII, 235.

<sup>81</sup> Particularly at Indianapolis and San Francisco. *New York Times* (September 5, 1919), p. 1; (September 19, 1919), p. 1.

<sup>82</sup> Rear Admiral Grayson, the President's physician. *New York Times* (September 27, 1919), p. 2.

<sup>83</sup> Wilson sometimes used words in an unusual way, but reporters always found after consulting dictionaries that he was right. Finally they knew if he used it, it was correct. Lawrence, *op. cit.*, p. 342.

<sup>84</sup> Wilson to Ellen Axson, February 17, 1885. *Life and Letters*, I, 203-204.

<sup>85</sup> This writer has observed similar reactions on many occasions to the speaking of Franklin D. Roosevelt.

<sup>86</sup> Observed in newsreel shots and in a number of photographs taken during delivery of various speeches. See Johnson, Gerald, *Woodrow*

*Wilson* (New York, 1944), pp. 40, 70, 72, 74, 120-121, 130-131, 153, 214, 229, 247, 265, 269, 271.

<sup>87</sup> *New York Sun* (September 21, 1919), p. 3.

<sup>88</sup> Colonel House has reported Wilson's nervousness and occasional lack of confidence. House, Edward, *Intimate Papers* (Boston, 1926-1928), III, 177. See also: Wilson to Jesse Jones, May 13, 1918, *Life and Letters*, VIII, 141.

in early years, Wilson's delivery improved and contributed to his persuasiveness on the Western Tour. His voice, though not strong, was pleasant, his articulation precise, pronunciation correct. Expressive action was adequate, though limited.

Although the strength of the President's arguments and his effectiveness in presenting them secured temporary success in arousing and stimulating large groups hitherto apathetic, the success was short-lived. The leader of the crusade for the League fell at the moment when

he was most needed, when his continued leadership might have meant eventual acceptance of the League by the United States. Had the United States been willing to discard nineteenth century political ideas and adopt a policy of cooperation in keeping with the twentieth century world, history since 1919 could have been vastly different. This nation, unable to accept Wilson's doctrine of world responsibility in 1919, now joins other nations in a second reconstruction, this time expressing faith in the Wilsonian principles of 1919.

# A STUDY OF THE RELATIVE EFFECTIVENESS OF CLIMAX AND ANTI-CLIMAX ORDER IN AN ARGUMENTATIVE SPEECH\*

HAROLD SPONBERG  
Michigan State College

## I. INTRODUCTION

THIS study is concerned with the influence of order upon the effectiveness of a speech. More specifically it is concerned with the relative effectiveness of climax and anti-climax order. In this study "climax order" is regarded as that arrangement of materials in which the argument receiving the least space-emphasis is placed first, and the argument receiving the most space-emphasis is placed last. Anti-climax order is regarded as that arrangement of material in which the argument receiving the most space-emphasis is placed first and the argument receiving the least space-emphasis is placed last. It is assumed here that normally, in rhetoric, space-emphasis is positively correlated with the importance of the expressed ideas.

Although climax order has long been regarded as the most effective arrangement of ideas, the advent of experimental methods in education should make it possible to determine scientifically the influence of order upon the effectiveness of a speech.

The order of ideas in a speech has received the attention of scholars and writers for many centuries. Aristotle,<sup>1</sup> Quintilian,<sup>2</sup> and Cicero<sup>3</sup> were among

those men who formulated the discipline of rhetoric and who maintained that the peroration was in one sense the most important part of the speech. Since the peroration was placed at the end of the speech, our concept of climax order had its beginning in the opinions of these men.

In modern rhetoric the climax order of presentation is still used and recommended. Many speakers have employed this method of speech organization.<sup>4</sup>

Authors, such as Phillips,<sup>5</sup> Shurter,<sup>6</sup> West,<sup>7</sup> Woolbert and Smith,<sup>8</sup> and Monroe,<sup>9</sup> are generally agreed that climax order is the most desirable arrangement of ideas within a speech.

Some men in the field, however, have begun to doubt the validity of this rule. The conclusions of Brigrance and Immel,<sup>10</sup> Hayworth,<sup>11</sup> Winans,<sup>12</sup> and Weaver,<sup>13</sup> indicate that anti-climax order may be a more effective arrangement of ideas in a speech; that the law of primacy may operate more strongly than the law of recency. Their opinions seem to be in-

<sup>4</sup> MacVaugh, C. S., "Structural Analysis of the Sermons of Dr. Harry Emerson Fosdick," QJS, XVIII (1932), 531-546.

<sup>5</sup> Phillips, A. E., *Effective Speaking* (Chicago, 1908), p. 195.

<sup>6</sup> Shurter, E. D., *Rhetoric of Oratory* (New York, 1912), p. 83.

<sup>7</sup> West, Robert, *Purposive Speaking* (New York, 1924), pp. 117-118.

<sup>8</sup> Woolbert, C. H., and Smith, J. E., *The Fundamentals of Speech* (New York, 1934), pp. 322-324.

<sup>9</sup> Monroe, Alan H., *Principles and Types of Speeches* (Chicago, 1937), p. 72.

<sup>10</sup> Brigrance, W. N., and Immel, R. K., *Speech-Making* (New York, 1938), pp. 298-299.

<sup>11</sup> Hayworth, Donald, *An Introduction to Public Speaking* (New York, 1941), pp. 95-96.

<sup>12</sup> Winans, J. A., *Speech Making* (New York, 1938), p. 115.

<sup>13</sup> Weaver, A. T., *Speech: Forms and Principles* (New York, 1941), p. 355.

\*A condensation of a thesis submitted in partial fulfillment of the requirements for the degree of Master of Arts at the University of Minnesota in 1942. The author acknowledges the invaluable aid given by Dr. Howard Gilkinson under whose guidance this study was conducted.

<sup>1</sup> Cooper, Lane, *The Rhetoric of Aristotle* (New York, 1932), p. 240.

<sup>2</sup> Quintilian, *The Institutes of Oratory* English Translation, H. E. Butler (New York, 1921), II, Book IV, pp. 34-35.

<sup>3</sup> Cicero, *De Oratore*, trans. by J. S. Watson (London, 1881), Book II, CLXXIX, pp. 318 ff.

fluenced by recent research that has been done in the field of speech and psychology. It is logical therefore to survey briefly the experimental work done on climax and anti-climax order. Some studies have been done in speech but most of the research has been done in the fields related to speech.

Adams<sup>14</sup> studied the effect of climax and anti-climax order in the field of advertising with retention as his criterion measure. He compared the effectiveness of different sequences of advertisements arranged according to size. It was found that the anti-climax order—large advertisement first—caused a ten per cent greater retention of the subject matter in the advertisement than did the climax order—large advertisement last.

With the shift of belief as his criterion measure, Lund<sup>15</sup> attempted to determine the effect of primacy in the presentation of written argument. Positive and negative arguments were prepared on each of three unrelated propositions. Each group of subjects was given, successively, positive and negative arguments on the same topic with the belief ratings being recorded before and after each reading. It was found that the first argument presented, whether positive or negative, showed a more marked effect on the shift of opinion than did the argument presented second. This study indicates the operation of the law of primacy in printed argument and suggests the possibility of its operation in the presentation of a speech.

Jersild<sup>16</sup> conducted a study on the modes of emphasis in oral discourse

which included the effect of primacy and recency in the recall of the oral statements in a speech. This speech, which was a biographical sketch, consisted of seventy statements, three of them placed at the beginning to determine the effect of primacy and three at the end to determine the effect of recency. It was found that a larger number of students recalled the first three statements, and Jersild concluded that the statements at the beginning are recalled more frequently than those at the conclusion.

Ehrensberger<sup>17</sup> also conducted a study on certain forms of emphasis in oral discourse which included primacy and recency. It was found that the subjects scored higher on statements in the position of recency than on statements in the position of primacy. Ehrensberger concluded that recency is superior to primacy as an aid to recall. Although these last two studies were concerned with single statements, they suggest the probable operation of primacy as well as recency in arranging ideational units of a speech.

A study that concerned itself specifically with speech organization was conducted by MacVaugh<sup>18</sup> comparing the structure of eighteen sermons delivered by Dr. Harry Emerson Fosdick with that of thirty speeches made by prominent speakers from the time of Henry Ward Beecher to the present. He divided the speeches into five parts: introduction, first main idea, second main idea, third main idea, and the conclusion. Assuming that the space given to an idea within a speech is closely correlated with its importance, MacVaugh used the method of line-counting to indicate the space-emphasis given to each part of the speech.

<sup>14</sup> Adams, H. F., "The Effect of Climax and Anti-Climax Order," *J. Appl. Psych.*, IV (1920), 330-338.

<sup>15</sup> Lund, F. H., "The Psychology of Belief," *J. Ab. and Soc. Psychol.*, XX (1925), 63-81, 174-196.

<sup>16</sup> Jersild, A. T., "Modes of Emphasis in Public Speaking," *J. Appl. Psychol.*, XII (1928), 611-620.

<sup>17</sup> Ehrensberger, Ray, "An Experimental Study of the Relative Effectiveness of Certain Forms of Emphasis in Public Speaking," *SM*, XII (1945), 94.

<sup>18</sup> MacVaugh, *op. cit.*, p. 2.



Comparing the speeches and the sermons graphically, he found that the speakers generally gave the most space-emphasis to the third main idea. In other words they tended to organize their material in climax order. Fosdick, on the other hand, gave the most space-emphasis to the first main idea, organizing his material in anti-climax order. MacVaugh concluded that prominent speakers have long accepted climax order as the most effective method of speech presentation, and that Fosdick repudiated the accepted methods used in traditional speech structure by presenting his sermons in anti-climax order.

In summarizing these studies, it can be said that each is significant in its own field. They also suggest the probable operation of primacy in climax and anti-climax order. They are somewhat qualified, however, by the conditions under which they were performed. Adams' study was done in the field of advertising with printed material. Lund's study also used printed materials, presenting positive and negative arguments, successively, to the same audience, which is not comparable to the usual speech situation. Jersild and Ehrensberger used oral delivery; but they were concerned with single statements and not with unit ideas in a speech. MacVaugh's study showed that the anti-climax arrangement of ideas is today effectively employed by an outstanding speaker. This study most directly deals with the problem of climax and anti-climax order in normal speech composition; it is suggestive but not conclusive.

In view of the results obtained in the studies reviewed, it appears that a different approach to this problem may yield significant results. No direct experimental evidence is available demonstrating the influence of order upon the effectiveness of a single speech. There is

an obvious need, then, for further experiment on this problem. Hollingsworth<sup>19</sup> indicated the need for continued investigation as follows:

Evidence shows the superiority of the anti-climax order or impressiveness of printed appeals and it shows the extreme importance of priority in persuasion and it shows a special interest in regard to the psychology of the audience; this is in direct contrast to the time-honored organization of a theme. The whole question of effectiveness merits more detailed experimental study. . . .

## II. EXPERIMENTAL METHOD

In setting up the following experimental study an attempt was made to fulfill a number of conditions which would provide significant evidence as to the relative effectiveness of climax and anti-climax order. They are listed as follows:

1. A control group and two experimental groups matched for age, sex, honor point ratio, opinion status, and class in college.
2. Speech material on a subject of vital interest to the audience.
3. Criterion measures which would permit direct comparison of the effectiveness of climax and anti-climax orders.
4. A method of manipulating the material so that factors of delivery and content could not cause spurious differences.

### *The Speech*

An argumentative speech was developed on the general topic of marriage and the war. The main idea of the speech was stated in this manner: "A young man, subject to military service, should defer marriage till the war is over." This subject was chosen because it was of current interest and of apparent importance to the college student at that time (March, 1942); it was presumably being widely discussed by the students in the speech classes at the University of Minnesota where this study was made, and it was a problem about which many students had definite opinions.

<sup>19</sup> Hollingsworth, L. L., *The Psychology of the Audience* (Boston, 1935), p. 95. [Italics mine.]

Three arguments were selected in support of the main proposition of the speech. These were not all of the arguments that might support the main idea, but they were selected because they appeared logical and highly relevant to the main proposition. Twenty students in a Fundamentals of Speech class were chosen as judges to rank the three supporting arguments in order of their importance. These arguments were developed into a twenty-minute speech. The space given to each argument was kept in proportion to the rating of importance given by the twenty judges. In delivering the speech it was found that the total time given to the three supporting arguments was sixteen minutes and twenty seconds. The most important arguments received a time-space of eight minutes and twenty seconds; the second most important argument received five minutes, and the third argument received three minutes.

Throughout this report the most important argument will be known as the large argument, the second most important as the medium argument, and the least important as the small argument. Climax order in the presentation of the speech will follow this sequence: introduction, small argument, medium argument, large argument. Anti-climax order follows this sequence: introduction, large argument, medium argument, small argument.

An introduction of three minutes was used to explain the general subject of the speech. The speech was expository in style and factual in content; stereotypes and verbal sanctions were generally avoided. Six speech instructors and two college seniors, majoring in speech, judged the speech to be logical and argumentative. The discussion of each argument began and ended with a statement of the argument itself. This method of

introduction and conclusion permitted the arguments to be presented in any order without breaking the sequence of thought or making the contents of the speech illogical or incoherent.

Voice recording provided the means for controlling all the factors in content and delivery. In this study all these factors were held constant except the order of presentation. The speech was recorded on one side of a sixteen-inch disk at a speed of thirty-three revolutions per minute. The speaker, the author, endeavored to employ a rather constant rate; vocal inflections were moderate throughout so that no argument received any special emphasis. After the introduction had been recorded, a small space was left uncut on the disk before the next argument was recorded. A similar space was left between each of the other arguments. This space facilitated the manipulation of the order of the arguments, for it was thus possible to find readily the beginning and end of each argument in playing back the speech.

#### *Subject Groups*

The subjects used in this experiment were students in the Fundamentals of Speech classes at the University of Minnesota. They were divided into three groups. Two were experimental groups, one hearing the speech when the arguments were presented in climax order, the other hearing the speech when the arguments were presented in anti-climax order. The third group acted as controls. There were ninety-two students in one experimental group and ninety-three in the other. Fifty-three students comprised the control group.

#### *Criterion Measures*

The specific purpose of the study was to make a comparison of the relative effectiveness of climax and anti-climax order between the two experimental

groups on the basis of the following criteria:

1. The retention of the subject matter of the speech.
2. The shift of opinion on the main proposition and the three supporting arguments.
3. The convincingness of the speech as a whole.

In the construction of the retention tests, sixty true-false statements were selected which were based on the content of the speech. Forty statements were based on the large argument, thirteen on the medium argument, and seven on the small argument. Two retention tests, Test I and Test II, were prepared; they were identical in content and sequence of questions. Retention Test I was given after the speech was heard. A ten-day period elapsed between the first and second tests. As it took three days for all subjects to hear the speech, the second test, Retention Test II, was given ten to thirteen days later.

A simple opinion ballot indicated the shift of opinion. In the construction of this Opinion Ballot, the main proposition and the three supporting arguments were changed into statements of belief. Each statement was preceded by three categories of response: "Yes," "?," "No." Each statement kept the same relative position in the three Opinion Ballots that were prepared. The Pre-speech Opinion Ballot was given immediately before the speech was heard. It secured information on sex, age, class, honor point ratio, as well as the initial opinion on each statement of belief. Post-speech Opinion Ballot I was given immediately after the speech was heard. In this study, it will be known as Post Ballot I. It contained a rating for convincingness of the speech in addition to the four statements of belief. Post-speech Opinion Ballot II, containing only the

four statements, was given ten to thirteen days later. In this study it will be known as Post Ballot II.

A nine-point scale served as a basis for rating the convincingness of the speech, with "one" representing "convincing" and "nine" indicating "very convincing."

#### *Presentation of the Speech*

The experiment was conducted in a special room whose location and construction rendered outside disturbances negligible. The playback machine and loud-speaker were centrally situated in front of the room. A screen was placed between the loud-speaker and the machine to conceal the experimenter's manipulation of the pick-up arm. The subjects were evenly distributed in the room to permit favorable audibility of the speech.

The subjects were members of speech classes that varied in size from fourteen to twenty-six students. A total of three successive days was used for the presentation of the speech to each class. After entering the room for the experiment, the subjects were told that this study was being conducted for the general purpose of investigating a problem in rhetoric; no subjects were told the specific purpose of the study. They were asked to refrain from discussing the material that was given them until the entire experiment was completed.

The Pre-speech Opinion Ballot was given to all subjects. The directions to be followed were written on the ballot and were read to the subjects to insure complete understanding and uniformity of procedure. After the ballots were completed and collected, the subjects were told that a speech was to be presented on the general topic of marriage and the war.

The introduction to the speech was played. The pick-up arm was then lifted

from the record. If the class was to hear the speech in climax order, the small argument was played next, followed in order by the medium argument and the large argument. If the class was to hear the speech in anti-climax order, the large argument was played after the completion of the introduction, and then followed in order by the medium and small arguments.

The manipulation of the pick-up arm had been practiced so that the lapse of time between divisions of the speech was of normal length. During the course of the speech no one appeared from behind the screen and no subject entered or left the room. The volume and tone controls were kept constant for each argument and for each presentation of the speech. A new needle was used for each playback.

Upon the completion of the speech the subjects were given Post-Ballot I. They indicated their responses to the four statements and also indicated their evaluation of the convincingness of the speech on the nine-point scale. Immediately upon the completion of the ballot, the subjects were given Retention Test I. The directions again had been written on the test and were read to the subjects. Six minutes was the time allotted for the answering of the questions.

On the first of the three days, during which the experiment was carried out, the Pre-speech Opinion Ballot was given to the subjects of the control group. As they did not hear the speech, the Retention Test was not given to them.

Ten to thirteen days later all the subjects were given the same tests again. Post-Ballot II and Retention Test II were administered to the experimental groups. In order to include the entire period that elapsed between the beginning and conclusion of the total experiment, the con-

trol group did not fill in the Post-Ballot II until the thirteenth day.

#### *Statistical Methods*

The Retention Tests were scored to determine the number of items answered correctly. Four scores were computed. The first score indicated the number of correct responses on the entire test; a second score the number of correct responses to the questions based on the large argument; a third score the number of correct responses to questions based on the medium argument, and fourth score the number of correct responses to questions based on the small argument.

A direct comparison was made between the results obtained from the climax and anti-climax order for each of the four retention scores. For example, the mean of the total score for climax order was compared with the mean of the total score for anti-climax order. The difference was computed and its standard error found. Dividing the difference by the standard error of the difference, the critical ratio of the difference was determined. If this figure was greater than 3.00; the difference between the two orders was considered significant; that is, the chances were very great that the true difference was greater than zero.<sup>20</sup> This procedure was applied to the scores on each individual argument to determine the effect of position upon the various units which composed the speech.

The Opinion Ballots were analyzed to determine the effect of the two presentations upon the opinions of the audience. Each change toward the acceptance of ideas expressed by the speaker received the value of +1, whereas each opposite change received a value of -1. The chief index employed was the percentage of those subjects, who, on the basis of the pre-speech ballot, were not in original

<sup>20</sup> Garrett, H. E., *Statistics in Psychology and Education* (New York, 1938), pp. 210-215.



agreement with the speaker and who changed in the direction of the speaker's position. A direct comparison was made between these opinion shifts on the main proposition and the three supporting arguments to determine the relative effectiveness of climax and anti-climax order. This analysis involved computation of percentages, standard errors of percentages, standard errors of differences and the critical ratios.<sup>21</sup>

The average convincingness ratings were found for climax and anti-climax order, and the significance of the difference was computed in the usual manner.

### III. RESULTS

#### *Equating of Subjects Groups*

All groups were equated on the basis of sex, and the two experimental groups were equated for number. They were further equated in respect to age, class, honor point ratio, and preliminary opinion on the arguments. The experimental groups were strikingly similar in their initial opinions on all propositions except the small argument, and this difference was not statistically significant.

<sup>21</sup> *Ibid.*, pp. 226-229.

#### *Effect of Order upon Retention*

It will be recalled that the criteria of this study were retention of subject matter, shift of opinion, and convincingness of the speech as a whole. The first criterion measure to be considered here is the Retention Test. Complete indices on Retention Test I and II are given in Table I.

On Retention Test I, the difference in the means of the total scores is significant. Anti-climax order was more effective than climax order in terms of the total amount remembered at the end of the speech. The difference between the means of the large argument scores is significant and indicates that the anti-climax order seems to cause greater retentiveness of subject matter in that argument. The medium argument was in the second position in both of the presentations and the difference between the means of the scores is not significant; this is an expected outcome because the argument's position was constant. The difference between the means of the small argument scores indicates that anti-climax order was probably more effective.

Reference again to Table I shows the

TABLE I  
SUMMARY OF RESULTS FOR RETENTION TESTS

	Climax Order			Anti-Climax Order			S.E.		
	Mean	Standard Deviation	S.E. of Mean	Mean	Standard Deviation	S.E. of Mean	Difference	of Difference	Critical Ratio
<i>Main Proposition</i>									
Post Test I	5.64	2.74	.29	52.88	2.37	.25	1.24	.38	3.24
Post Test II	49.05	3.40	.35	51.03	2.61	.27	1.99	.44	4.50
<i>Large Argument</i>									
Post Test I	34.19	2.08	.22	35.08	1.99	.21	.89	.30	2.99
Post Test II	32.20	2.88	.30	33.61	2.30	.24	1.41	.38	3.69
<i>Medium Argument</i>									
Post Test I	9.10	1.06	.11	9.24	1.32	.14	.14	.18	.77
Post Test II	8.99	1.38	.14	9.02	1.29	.13	.04	.19	.21
<i>Small Argument</i>									
Post Test I	6.38	.69	.07	6.63	.58	.06	.25	.09	2.70
Post Test II	6.00	.91	.10	6.35	.70	.07	.35	.12	2.91

results of Retention Test II; an analysis indicates that the points of differentiation continue to be the same as for Retention Test I. The differences, however, appear to be somewhat greater in the second analysis.

#### *Effect of Order upon Opinion*

The second criterion measure was the Shift of Opinion Ballot. Complete indices on the percentage of opinion shift is given in Table II. In determining the relative effectiveness of the two orders of presentation, the percentage of positive shift is the basis of comparison. Post Ballot I indicated the amount of shift from the Pre-Speech Ballot. The difference between the two orders on the main proposition is not significant. With the large argument, anti-climax order effected a greater shift of opinion than did the climax order. The difference between the percentages of positive shift is unquestionably significant; it is noted that the critical ratio is 5.54. The dif-

ferences on the medium and small arguments are not significant.

Table II also indicates the amount of shift from the Pre-speech Ballot to Post Ballot II. As was expected, the percentage of positive shift was less, and the percentage of negative shift was greater. The critical ratios on the main proposition, medium argument, and small argument do not show a significant difference. This is consistent because these ratios were not significant in the change from the Pre-speech Ballot to Post Ballot I. The critical ratio on the large argument, however, is still highly significant.

Table II also shows the shift of opinion which occurred in the control group during the thirteen-day period. The percentage of positive and negative shift was almost equal with four per cent being the largest difference, which was found to be non-significant.

TABLE II  
SUMMARY OF RESULTS FOR OPINION BALLOTS.

		Control Group		Climax Order		Anti-Climax Order		S. D.		
Arguments & Tests	Response	No. of Changes	% of Change	No. of Changes	% of Change	No. of Changes	% of Change	Difference	of Differ.	Critical Ratio
<i>Main Proposition</i>										
Pre to Post I	Negative	—	—	2/61	.03	0/59	.00			
	Positive	—	—	18/41	.44	17/44	.39	.05	.11	.45
Pre to Post II	Negative	4/32	.14	7/61	.12	3/59	.05			
	Positive	4/32	.14	10/41	.24	13/45	.29	.05	.10	.50
<i>Large Argument</i>										
Pre to Post I	Negative	—	—	2/81	.03	0/83	.00			
	Positive	—	—	7/24	.29	23/26	.89	.61	.11	5.54
Pre to Post II	Negative	2/40	.05	5/81	.06	2/82	.02			
	Positive	1/14	.07	6/24	.25	22/26	.85	.60	.11	5.45
<i>Medium Argument</i>										
Pre to Post I	Negative	—	—	2/55	.04	0/53	.00			
	Positive	—	—	16/45	.36	14/49	.29	.07	.10	.70
Pre to Post II	Negative	4/28	.14	6/55	.11	4/53	.08			
	Positive	5/27	.18	14/47	.31	11/49	.22	.09	.11	.81
<i>Small Argument</i>										
Pre to Post I	Negative	—	—	3/44	.07	1/55	.02			
	Positive	—	—	24/58	.41	21/45	.47	.06	.10	.60
Pre to Post II	Negative	5/25	.20	5/44	.11	3/56	.05			
	Positive	5/30	.17	18/58	.31	13/45	.29	.02	.09	.22

### *Effect of Order on Ratings for Convincingness*

A third criterion measure was the convincingness rating of the speech. The subjects rated the speech on a nine-point scale. Table III shows the distribution of the ratings with the mean scores for each group. There is no significant difference between the two means.

TABLE III  
SUMMARY OF RESULTS ON CONVINCINGNESS RATINGS

Rating Score	Order	
	Climax F	Anti-Climax F
9	13	10
8	19	25
7	22	24
6	17	16
5	14	8
4	2	7
3	1	1
2	2	1
1	2	1
M	— 6.65	— 6.71
SD	— 1.91	— 1.62
SD <sub>m</sub>	— .20	— .16
	Diff.	— .06
	SD <sub>diff.</sub>	— .26
	C.R.	— .23

### SUMMARY

It should be noted that all presentations of the speech were identical in content, delivery, rate, inflection and pauses. No change occurred that favored either order. The constancy of content and delivery was the basis on which the relative effectiveness was determined. The only variation which occurred was the intended variation of the position of the arguments.

It should be noted also that the purpose of the speech employed in this study was to cause a shift of opinion on a proposition of expediency rather than to effect a change in general attitude.

The results of this study indicate an advantage for anti-climax order as com-

pared with climax order in the presentation of a speech on a proposition of expediency. On several points of comparison, the former was significantly more effective than the latter; at no point of comparison was climax more effective than anti-climax order. In other words, the outcomes were fairly consistent. One or two exceptions should be noted.

Although the two orders showed no significant differentiation on shift of opinion as far as the main proposition is concerned, a significant difference was revealed in the shift of opinion on the large argument. It is supposed that either the subjects were inconsistent in their responses to the arguments or that the large argument was not logically related to the main proposition as was originally supposed.

There is another curious deviation in the results of this study. In relation to the criterion of retention, there was not only an advantage so far as the large argument was concerned, but also a possible advantage for the medium and small arguments when the material was arranged in anti-climax order. This may mean that something more is operating here than the simple law of primacy. Possibly placing the most important argument first not only secures better retention for that particular argument, but creates an active state of attention that promotes better retention of the less important arguments that follow.

### Conclusions

The following conclusions can be drawn from the data as revealed in this study:

1. The large argument effected significantly greater retention of its content when presented first in the speech.
2. The large argument was significantly more effective in changing the opinion of the subjects when it was presented first.

3. The anti-climax order effected significantly greater retention of the contents of the entire speech.

4. There was no significant difference between the orders of presentation as revealed by the ratings for convincingness.

5. The medium argument, occupying the second position in both presentations, showed no significant difference in

respect to retention or shift of opinion.

6. The control group showed no significant change in shift of opinion during the course of the experiment.

7. The study revealed the operation of the law of primacy in the presentation of oral material, and, in general, favors the anti-climax order of speech composition.



# A STUDY OF THE CHARACTERISTICS OF STUDENT RATERS OF PUBLIC SPEAKING PERFORMANCES

WAYNE N. THOMPSON  
*University of Missouri*

## I. INTRODUCTION

### A. *Origin and Significance of Problem.*

An earlier paper by the writer<sup>1</sup> analyzed the over-all problem of securing accurate evaluations of public speaking performances and presented some of the reasons for developing more efficient rating techniques. As the results of that investigation suggested that the nature of the rating technique has but little to do with the accuracy with which the speech is judged, the writer directed the present work toward the study of the second factor in the rating situation—the rater himself. That many types of individual differences exist has been demonstrated repeatedly, and that these differences might be related to the ability to judge a public speaking performance seemed possible. Nor would such findings lack practical significance, for they would provide a basis (1) for making tentative estimates of the ability of potential raters and (2) for indicating promising procedures for the training of future raters. Although some characteristics that might correlate with rating ability are subject to but little change through training, others, if present among superior raters, would suggest attainable goals.

B. *Analysis of Problem.* The problem breaks into three divisions: (1) the measurement of the rating ability of a series of individuals; (2) the measurement of selected possible related characteristics of those individuals; (3) the correlation of the two sets of data.

Further analysis of ability to rate speak-

ing performances is useful, for there are three types of errors: (1) The judge may anchor his own rating scale at a point abnormally high or unusually low.<sup>2</sup> (2) He may tend either to be extremely variable in giving grades or to give almost the same score to every speaker. (3) His ratings may place speakers in the "wrong" order.

The number of personal characteristics that an experimenter may include in a project of this type is so great that the study must limit its scope somewhat arbitrarily. In the present instance the two limiting factors were: (1) apparent significance and (2) measurability. The procedure for selecting the qualities was to consider the possible sources of error in ratings so as to determine which personal qualities might be significant and then to retain those that could best be measured. Unfortunately the second criterion forced the elimination of such factors as the emotional attitude at the moment, the influence of expectation and habituation, and the failure to understand the nature of the rating technique or indifference to its careful application.

Relating the two sets of measurements involves those assumptions and limitations which are inherent to the correlation process and are treated in full in many books and specialized treatises.

C. *Purpose of Study.* The purposes of the study are as follows:

1. *To determine whether college students differ significantly from their colleagues in their ability to judge a speaking performance.*

<sup>2</sup> A fuller discussion of the use of the mean as the criterion for judging rating ability appears under the section "Fundamental Assumptions."

<sup>1</sup> "An Experimental Study of the Accuracy of Typical Speech Rating Techniques," SM, XI (1944), 65-79.

2. To determine what characteristics, if any, are significantly associated with the various aspects of rating ability.

*D. Methodology.* Classes at Bowling Green (Ohio) State University provided almost all of the data. These classes were first courses in speech, taught by the writer and required of all students enrolled in the College of Education. Most of the students were women of freshman standing at the time of the experiment. Circumstances differed somewhat for those data secured at other institutions, but all data are for college students with little speaking or rating experience.

The scales used in securing data are as follows: *The Diagnostic Speech Scale* and the *Speech Attitudes Scale*;<sup>3</sup> *Ohio State University Psychological Test, Form 21* (Columbus, Ohio, 1940); tests nine and ten of the *Otis Group Intelligence Scale, Form B* (Yonkers, New York, 1919); *Bell Adjustment Inventory, Student Form* (Stanford University, California, 1934); and Davis, Frederick B., Beers, F. S., Gookin, Warner, Paterson, D. G., and Willis, Mary, *Cooperative English Test, Test C2: Reading Comprehension (Higher Level), Form R* (New York, 1940). The writer's gradebook supplied information concerning the classwork of the students and a special test was used in estimating attention span.<sup>4</sup>

Excepting the measure of scholastic aptitude, which the entrance officials at Bowling Green State University gave, all tests were given by the writer during reg-

ular class meetings. As nothing unusual characterized the procedure, description of it appears unnecessary.

The writer followed these steps in collecting data on rating ability: He distributed the rating scales and explained them briefly to the class. He asked the students to turn their rating blanks face down until the conclusion of each speech, at which time he allowed a brief period for the recording of judgments. The students made their evaluations independently, with no comments on the speeches until after all ratings had been completed and collected. In an effort to secure unbiased ratings, the writer explained that the students were participating in an educational experiment and that the outcome would not affect anyone's grade. Each rater signed his paper.

The principal control factor was that all raters were engaged simultaneously in evaluating the same series of stimuli under the same external conditions. Such possible extraneous factors as distracting noises outside the classroom presumably would affect all raters; and the fact that some might be more susceptible than others to such distractions does not reduce the value of the experiment, for any such susceptibility is a part of the variable under consideration — rating skill. The same thing is true of certain other factors that may seem at first to cast doubt upon the results. True enough, personal friendships affect judgment,<sup>5</sup> and probably prejudice upon the topic, peculiar standards of rating, and other factors too numerous to mention likewise influence decisions; but all of these factors are aspects of the total rating ability, the variable under measurement.

<sup>3</sup> For a description of these devices and for information as to their reliability and validity, see Thompson, *op. cit.*, pp. 73, 75.

<sup>4</sup> The writer repeated a series of digits orally and had the students write down immediately afterwards what they remembered. To increase the accuracy of the measure, he repeated the experiment and averaged the results. The reliability of a single trial is .29 ( $r = .10$ ;  $N = 91$ ); the estimated reliability of the two trials, .45.

<sup>5</sup> Henrikson, Ernest H., "The Relation among Knowing a Person, Liking a Person, and Judging Him As a Speaker," *SM*, VII (1940), 22-25.

The steps in treating the data were as follows: (1) The computation for each judge of the average of all of his ratings. This average is a measure of his liberality as a rater. (2) The correlation by the Pearson Product-Moment Method of this mean with the measures of the various characteristics of each rater. Each correlation series is restricted to the individuals within a section. Therefore, each rater within the series evaluated the same speakers. (3) The computation of the mean of the means for each class, and the algebraic subtraction of the mean of the means from the mean for each student judge, thereby securing a measure called "deviation in liberality." (4) The correlation by the Pearson method of the deviation in liberality with the measures of the various characteristics of each rater. (5) The computation for each student of the variance of his ratings. This statistic is a measure of the tendency of the individual either to repeat grades or to scatter evaluations widely. (6) The correlation by the Pearson method of the variance with the measures of the characteristics of each rater. (7) The computation of the mean of the variances for each section and the algebraic subtraction of this mean of the variance from the variance for each rater, thereby measuring his deviation in variability. (8) The correlation by the Pearson method of this deviation in variability with the measures of the characteristics of each rater. (9) The measurement of the speaking skill of each individual through finding the mean for all student ratings assigned to his speaking performance, and the ranking of the speakers within each class in order from best to worst. (10) The translation of the scores given by each rater into his ranking of the set of speakers. (11) The correlation by the Spearman Rank Order Method of these two

rankings, thereby securing a measure of the rating accuracy of each student. (12) The ranking of the raters of each section from best to worst in accuracy, and the correlation by the Spearman method of these rankings with the rankings of the raters upon the several measures of their characteristics.

All of the correlations were made by sections. If a correlation was less than .10, plus or minus, for a section, the writer assumed that no further investigation of that particular correlation was worth while. (This decision seems conservative, since the *t*-value for an *r* of .09 based upon 23 cases is .04. There is less than one chance in ten that any significant correlation would be found if the investigation should be extended to an infinite number of cases.<sup>6</sup>)

If the correlation was .10 or more, plus or minus, additional trials were run with the other sections, so long as the crude average of all trials was .10 or more. The results of the several correlations were ultimately combined by Lindquist's method.<sup>7</sup> The writer determined the significance of the combined *r* by reference to Lindquist's Table 13.<sup>8</sup>

All of the above points concerning the treatment of data relate to the major problem on the nature of raters. The treatment of the data in other parts of the body of this paper will be considered in the appropriate sections.

*E. Fundamental Assumptions.* Since books on statistics discuss in detail the assumptions underlying the methods used here, this paragraph will be limited

<sup>6</sup> Lindquist, E. F., *Statistical Analysis in Educational Research* (New York, 1940), pp. 210-211, 53.

<sup>7</sup> *Ibid.*, pp. 218-219.

<sup>8</sup> *Ibid.*, p. 212. In the case of the data on accuracy, it was necessary to convert *p* into *r* before combining the results of the several correlations. The table used in the conversion is the one given by Garrett, Henry E., *Statistics in Psychology and Education* (New York, 1941), p. 362.

to one non-statistical consideration—the assumption that the average of the ratings by a number of students is the true rating, or at least the best estimate of the true rating.<sup>9</sup> Arguing the validity of the assumption appears to be less important than understanding how the term “rating accuracy” is used in this paper. When we say that a student ranks first among his fellows in accuracy, we mean that he ranks the speakers that he hears more nearly in accordance with the average of the opinions of his fellow students than does anyone else within his group.

Any conclusion that he is a “better” rater than his colleagues rests upon the assumption that agreement-with-the-group is the best test of whether one is a good rater.<sup>10</sup> If the reader will keep this definition of rating accuracy in mind during the interpretation of the findings, no harm should be done.

<sup>9</sup> This assumption applies only to the portion of the study dealing with rating accuracy. The sections on variability and liberality present findings in a purely descriptive way.

<sup>10</sup> This assumption is the foundation for almost all research studies in this area. (For a full survey of the point, see Thompson, *op. cit.*, pp. 69-70.) These further reasons support the acceptance of the assumption. (1) It is the one upon which our belief in democratic government rests—the belief that the average of the opinions of a large group is the best estimate of what is true and right. However, on the other hand, democracy gives decisions to its lay constituents only in broad and relatively non-technical matters. (2) The assumption is of greater practical utility than other possible assumptions. As no machine exists for measuring speaking skill, any evaluative system involves some sort of human fallibility. The other possible measure is the judgment of the speech “expert,” or the composite measure of a group of such experts. Such a group, however, usually must be small, and numerous studies show that reliability increases rapidly as the size of any group increases. Moreover, since the speech expert and the speech student tend to agree in their judgments, according to other research studies, the reliability of the measure is the critical point, and here the advantage goes to the larger group. (3) In most practical situations the speaker’s success depends upon his reception by the lay group. So it is in speaking to a jury, to a church congregation, to a political assemblage, and in most of the other adult speaking situations.

Another factor that he should remember as he considers the findings is the scope of this survey. The findings are stated in terms of specified groups and particular measures of rating ability, of intelligence, and of personality. It may seem probable that the same findings would be obtained with other measures or with other groups, but any such generalizations would involve the further assumptions that the groups studied are typical of the population and/or that the measures employed are reliable and valid.

Obviously, we are assuming that the various labels employed are accurate and that they will have at least approximately the same meaning to all readers. For instance, we are assuming that what the *Ohio State University Psychological Test* measures is “scholastic aptitude.”

## II. FREQUENCY OF OCCURRENCE OF RATERS WHO DIFFER SIGNIFICANTLY FROM THE MEAN

Before considering whether certain characteristics are related to rating ability, we must determine whether students differ significantly in their ability to judge speaking performances. In finding an answer to this question, we had the students rate a series of speeches and determined by standard statistical techniques whether their ratings differed from those of their fellows to an extent too great to be due to chance.

The fact that a few students vary by more than chance, however, would not prove that significant differences exist within the group, for, according to the theory of normal probability, we should always expect a certain number to be at the extremes. The critical question, therefore, is whether the number differing significantly in the various aspects of rating ability is greater than chance.

Data on rating ability came from seven



different Basic Speech classes at Northwestern University, American University, University of Oklahoma, Cape Girardeau (Missouri) Teachers College, Berea College, and Bowling Green (Ohio) State University.<sup>11</sup> These data measure both the ability of the rater to rank the speakers in the accepted order and his tendency to anchor his rating scale at the average height. The former has the greater influence upon the general accuracy statistic.<sup>12</sup> Twenty-one raters of the 147 vary from the mean in rating accuracy at the five per cent level of significance, whereas only seven would vary this much by chance; seven vary significantly from the mean at the one per cent level, whereas only one would vary this much by chance. The former difference is significant by the chi-square test at the one per cent point, and the latter is significant by the same test at the five per cent level. That raters do differ significantly in accuracy is even clearer when all raters are compared with all other raters within the same class. Of 1510 such possible combinations, 405 are significant at the five per cent level (seventy-five such significant combinations would occur through chance) and 195 are significant at the one per cent level (fifteen would occur through chance). Both of these results are significant by the chi-square test.

Six sections<sup>13</sup> with a total of 133 stu-

dents were studied to determine whether students differ significantly in respect to the liberality with which they rate speaking performances. Of these students, twenty-six varied significantly from the mean in liberality (seven would do so by chance at the five per cent level) and ten at the one per cent level where one would do so by chance. According to the chi-square test, both of these differences between the actual number and the expected number are too great to be explained upon a chance basis. Put in another way, almost twenty per cent of the college students included in this experiment differed significantly from the class average in respect to the level at which they assigned scores.<sup>14</sup> These deviations were almost equally divided as to direction: Considering those who differed significantly at the five per cent level, fifteen rated too high and eleven too low. Of the ten deviating significantly at the one per cent point, six were too generous and four too critical.

Five sections with a total of 111 students were studied to determine whether the students differed significantly in respect to the variability with which they rated speaking performances.<sup>15</sup> Nineteen differed in variability from the mean to a degree significant at the five per cent level (six would do so by chance) and five at the one per cent point (one would do so by chance). The former statistic is significant at the one per cent point, but the latter variation between actual results and expectancy could be due to chance. Considerably more students were significantly non-variable (assigning grades over a very narrow range) than significantly overly variable. At the five per cent level five were

<sup>11</sup> The writer is indebted to Professors William Sattler, O. M. Skalbeck, and John Sattler for collecting data.

<sup>12</sup> The writer used the partial correlation technique to determine the relationship between the ordering of the speaking performances and the total inaccuracy and between the deviation from the mean in liberality and the total inaccuracy. The partial correlation in the first instance is .76 and in the second, .59. The formula used for performing the calculations is Guilford's Formula 181.—Guilford, J. P., *Psychometric Methods* (New York, 1936), p. 399.

<sup>13</sup> Four of these sections were from Bowling Green (Ohio) State University, one from the American University, and one from Berea College. The writer is indebted to Prof. John Sattler for collecting the data from Berea.

<sup>14</sup> This finding indicates that the comparison of raw scores given by different judges is likely to provide misleading data.

<sup>15</sup> Four sections are from Bowling Green (Ohio) State University and one from Berea College.

overly variable and fourteen non-variable; at the one per cent point all five significant differences were in the non-variable direction. Thus, while the number of overly variable cases could be due to chance, the number assigning grades within a very narrow area is significant.

In respect to the data studied, therefore, we may conclude that, although the majority of the students in a class in beginning speech may be considered normal raters, a significant number vary from normalcy to a pronounced degree in accuracy of judgment, in liberality, and in non-variability.

### III. CORRELATIONS BETWEEN VARIOUS ASPECTS OF RATING ABILITY AND VARIOUS MEASURES OF OTHER CHARACTERISTICS OF RATERS

TABLE I.—A SUMMARY OF THE CORRELATIONS BETWEEN THE LIBERALITY OF RATERS OF A SERIES OF PUBLIC SPEAKING PERFORMANCES AND CERTAIN OTHER CHARACTERISTICS OF THE RATERS

Other Factor	11:00 Section		1:00 Section		2:00 Section		3:00 Section		Combined		
	r	N	r	N	r	N	r	N	r	N	$\sigma_r$
Narrative Completion			-.01	25							
Scholastic Aptitude	-.02	22									
Attention Span	.10	23	.15	24			-.15	23	.04	64	
Memory	.07	23									
Home Adjustment			-.08	25							
Health Adjustment	-.01	23	.12	25					.06	45	
Social Adjustment			.08	25							
Emotional Adjustment	.07	23	-.21	25					-.08	45	.15
Personality Adjustment			.01	25							
Vocabulary			-.01	19							
Reading Comprehension	-.06	22									
Reading Skill	-.11	22	-.02	19			-.04	19	-.06	54	
Speech Class											
Written Work	.11	24	-.34	25	-.07	20	-.12	24	-.11	84	.11
Speaking Performance (Students' Judgment)	-.34	23	-.24	25	.10	20	.00	22	-.17	81	.11
Semester Grade in Speech	.24	24	-.30	25					-.04	46	

TABLE II.—A SUMMARY OF THE CORRELATIONS BETWEEN THE DEVIATION IN LIBERALITY IN THE PUBLIC SPEAKING PERFORMANCE RATINGS ASSIGNED BY INDIVIDUALS AND CERTAIN OTHER CHARACTERISTICS OF THE INDIVIDUALS

Other Factor	11:00 Section		1:00 Section		2:00 Section		3:00 Section		Combined		
	r	N	r	N	r	N	r	N	r	N	$\sigma_r$
Narrative Completion			.02	25							
Scholastic Aptitude	-.01	22									
Attention Span	-.01	23									
Memory	-.01	23	-.24	25	.07	20			-.07	62	.13
Home Adjustment			-.03	25							
Health Adjustment	.14	23	-.27	25	-.04	20			-.07	62	.13
Social Adjustment	.10	23	-.20	25	.18	20	-.17	23	-.04	82	
Emotional Adjustment	-.10	23	.21	25					.06	45	.15
Personality Adjustment	-.02	23	-.11	25					-.07	45	.15
Vocabulary	.11	22	.06	19	-.24	17	.07	19	.01	68	
Reading Comprehension	-.06	22									
Reading Skill	-.03	22									
Speech Class											
Written Work	.30	24	.18	25	.00	20	-.58	24	-.04	84	
Speaking Performance (Students' Judgment)			.00	25							
Semester Grade in Speech			.02	25							

TABLE III.—A SUMMARY OF THE CORRELATIONS BETWEEN THE VARIABILITY IN THE PUBLIC SPEAKING PERFORMANCE RATINGS ASSIGNED BY INDIVIDUALS AND CERTAIN OTHER CHARACTERISTICS OF THE INDIVIDUALS

Other Factor	11:00 Section		1:00 Section		2:00 Section		3:00 Section		Combined		
	r	N	r	N	r	N	r	N	r	N	$\sigma_r$
Narrative Completion			.12	25					.12	25	.20
Scholastic Aptitude	-.23	22	.22	24					.01	40	
Attention Span	-.07	22	.21	24					.07	41	
Memory	-.60	23	.22	25			.35	23	-.03	62	
Home Adjustment	-.16	23	-.15	25			.07	23	.08	62	
Health Adjustment			.07	25							
Social Adjustment	.13	23	-.10	25					.01	42	
Emotional Adjustment			-.07	25							
Personality Adjustment	-.05	23	-.10	25			.29	23	.04	62	
Vocabulary	-.20	22	-.32	19	.26	17	.25	19	-.02	65	
Reading Comprehension	-.07	22									
Reading Skill			-.09	19							
Speech Class											
Written Work	-.01	24	.31	25	-.19	20	.23	24	.10	81	
Speaking Performance (Students' Judgment)	-.15	23	.27	25					.07	42	
Semester Grade in Speech	-.07	24	.35	25	.00	20	.40	24	.19	81	.11

TABLE IV.—A SUMMARY OF THE CORRELATIONS BETWEEN THE DEVIATION IN THE PUBLIC SPEAKING PERFORMANCE RATINGS ASSIGNED BY INDIVIDUALS AND CERTAIN OTHER CHARACTERISTICS OF THE INDIVIDUALS

Other Factor	11:00 Section		1:00 Section		2:00 Section		3:00 Section		Combined		
	r	N	r	N	r	N	r	N	r	N	$\sigma_r$
Narrative Completion			.00	25							
Scholastic Aptitude	.07	22	.10	24					.09	40	
Personality Adjustment			.04	25							
Speech Class											
Written Work			-.05	25							
Speaking Performance (Students' Judgment)	.03	23	-.33	25			.40	22	.02	61	
Semester Grade in Speech	.07	24	-.21	25					-.07	43	

The findings, presented also in tables I-V, are as follows: (1) None of the factors included in the study correlates significantly with liberality, deviation in liberality, variability, or deviation in variability. (2) Scholastic aptitude and semester grades are correlated positively with accuracy in rating to an extent significant at the five per cent level.<sup>16</sup> No other factor considered in this study is related significantly to accuracy.

<sup>16</sup> As scholastic aptitude and semester grades are themselves correlated (combined  $r$  is .54;  $N = 77$ ; standard error of  $r = .11$ ), it would be incorrect to say that two separate factors correlate positively with grading accuracy.

#### IV. SUMMARY AND CONCLUSIONS

This study had two purposes: (1) To determine whether college students differ significantly from their colleagues in their ability to judge a speaking performance; and (2) to determine what characteristics, if any, are significantly associated with the various aspects of rating ability. The three major steps in the procedure were (1) to measure the rating ability of ninety speech students, (2) to measure a number of other characteristics of the same students, and (3) to correlate the two sets of measurements.

*Findings.* (1) Significant differences

TABLE V.—A SUMMARY OF THE CORRELATIONS BETWEEN THE ACCURACY OF THE PUBLIC SPEAKING PERFORMANCE RATINGS ASSIGNED BY INDIVIDUALS AND CERTAIN OTHER CHARACTERISTICS OF THE INDIVIDUALS

Other Factor	11:00 Section		1:00 Section		2:00 Section		3:00 Section		Combined		
	r	N	r	N	r	N	r	N	r	N	$\sigma_r$
Narrative Completion			-.05	25							
Scholastic Aptitude	.36	22	.00	24	.45	19	.16	24	.23	77	.11
Attention Span	-.13	23	.37	24	.13	20	.15	23	.14	78	.11
Memory			.03	25							
Home Adjustment			.00	25							
Health Adjustment	.17	23	-.20	25					-.02	42	
Social Adjustment			-.03	25							
Emotional Adjustment			-.07	25							
Personality Adjustment	.17	23	-.15	25					.00	42	
Vocabulary			.04	19							
Reading Comprehension			.09	19							
Reading Skill	.24	22	.19	19	.26	17	.01	19	.18	65	.12
Speech Class											
Written Work	.35	24	-.15	25			.03	24	.08	64	
Speaking Performance (Students' Judgment)	.12	23	.29	25	.36	20	.07	22	.21	78	.11
Speaking Performance (Semester Average)	.23	24	.23	25	.47	20	-.06	24	.21	81	.11
Semester Grades	.43	24	.20	25	.44	20	-.06	24	.25	81	.11

occur among students in beginning college speech classes in respect to their ability to rate speaking performances. Students vary significantly from their fellows in rating accuracy, in the liberality with which they assign estimates, and in the variability of their estimates. Although the majority of the students of this experiment may be considered "normal" raters, the number varying from normalcy is considerably greater than would occur through chance alone. (2) All correlations between rating characteristics and other characteristics lack significance except those (a) between scholastic aptitude and accuracy and (b) between semester grades and accuracy. Scholastic aptitude and semester grades are themselves closely related.

*Interpretation.* The ability to rate public speaking performances, therefore, is a unique ability not significantly correlated with most of the factors considered in this study—ability to complete a narrative, memory, attention span, personality factors, vocabulary, reading comprehension and skill, speaking ability,

and the complex measured by speech class written work. The students of higher intelligence and those making the better semester grades in speech, however, are more accurate raters than their fellows, defining accuracy as the extent to which they agree with the average of the ratings of the students in their own class.

The most significant implications for the speech educator appear to be as follows: (1) The only way to determine whether a student is a good judge is to put him into an experiment and to determine his rating characteristics—perhaps by the procedure that this study illustrates. Referring to available data on his scholastic aptitude, personality, and academic achievement will not provide a reliable basis for predicting his rating proficiency. If one, however, must guess as to the rating skill of a student and cannot observe his work in an experimental situation, he will be more likely to pick a skillful judge if he chooses a person who has made a superior scholastic aptitude score and who ranks high



academically; but the risk that this guess will be wrong is high.<sup>17</sup> (2) Teaching students to become good raters necessitates a direct approach. The present study provides no evidence to support

<sup>17</sup> The coefficient of alienation (see Guilford, *op. cit.*, pp. 362-3) measures the extent to which knowledge of the scholarship of a student might improve one's success in guessing whether he will be an accurate rater. As the degree of gain is only 3.2 per cent when  $r$  is .25, the correlation between semester grades and rating accuracy, though generally significant, is almost worthless for predictive purposes.

the belief that helping the student in his personality adjustment will make him a better speech judge.<sup>18</sup> Just what sort of training program, if any, might serve to increase the rating ability of students is not the purpose of this experiment, but appears to be the next worthwhile area to explore.

<sup>18</sup> Of course, improved personal adjustment is desirable for many other reasons. The data of this study neither affirm nor deny the conclusion of some research workers that better adjustment leads to better speaking.

## A PRELIMINARY EXPERIMENTAL COMPARISON OF RADIO AND CLASSROOM LECTURES

W. T. HERON  
*University of Minnesota*

and

E. W. ZIEBARTH\*  
*Columbia Broadcasting System*

THE development of frequency modulation broadcasting, and the enthusiasm of some educators for the extensive use of what they believe may be a medium for mass instruction, has increased the interest in research which will guide the way to its most effective utilization. What actually can be done by radio? Is it true, as one well known public relations man for radio recently said, that the university of the future will be made up of a small group of master lecturers located at a central point, whose discussions will be broadcast to all who care to listen? Aside from the obviously naive concept of what a university is, could radio even begin to do the job? While this preliminary study is by no means designed to answer these questions, it is a report of an experience which may help determine the practicality of one proposed use of the newly granted F-M frequencies.

The results of a number of studies indicate that there are differences between the effectiveness of talks and lectures delivered in the face-to-face situation, and those delivered over the air. Criteria for the determination of effectiveness have, in most cases, been recall and attitude change. A study done at the University of Wisconsin<sup>1</sup> indicated that for single eight-minute speeches

there was no significant difference in the number of facts recalled by one hundred students. A study by Gaskill<sup>2</sup> on the recall of the content of a psychology lecture indicates higher scores for those who heard the broadcast lectures than for those in attendance. The superiority was statistically significant. These scores were based on two lectures, one heard at home and the other in the studio classroom.

### PROCEDURE

During the first summer session of 1945 the class in General Psychology at the University of Minnesota was divided randomly into halves. The division was made at the first class meeting, and it was explained to the whole group that an experiment was to be run on the effectiveness of the radio as a medium of instruction. One half of the class was to listen to the lectures over the radio and the other half was to attend the classroom lectures. It was further explained that after the mid-session examination the two sections would be reversed so that those who had been listening to the radio would for the rest of the term come to class, while those who had been in the classroom would listen to the radio. The class understood that all members would receive equally the advantages and disadvantages of the two methods of instruction.

Assignment sheets were handed to all students, indicating the text-book read-

\*Professor Heron is in the Department of Psychology at the University of Minnesota; Mr. Ziebarth is Director of Education for the Central Division of the Columbia Broadcasting System, and is in the Department of Speech, University of Minnesota.

<sup>1</sup> Ewbank, H. L., "Exploratory Studies in Radio Techniques," *Education on the Air*. (Columbus, Ohio, 1930), pp. 284-290.

<sup>2</sup> Gaskill, Harold V., "Research Studies Made at Iowa State College," *Education on the Air* (Columbus, Ohio, 1933), pp. 322-26.

ing for each semi-weekly period. Those who were to listen to the radio were told that they could listen anywhere they pleased, but for those who did not have access to a radio, the lectures were piped into an auditorium on campus. The auditorium selected had no chairs suitable for note-taking, but was otherwise superior in acoustics and comfort to the average auditorium. The classroom section met in one of the large air conditioned studios of the University of Minnesota station KUOM.

The lecture periods were forty-five minutes in length instead of the usual fifty minutes in order to coordinate with the quarter-hour programming of the radio station. The asking of questions by the classroom group was not encouraged but at the close of the lecture the instructor answered the questions of any student who stopped at the lecture desk.

Charts were used in the classroom, and the first time they were used the instructor indicated that fact to the radio audience. Such use of the charts was reported to be irritating to the radio-half of the class and to other radio listeners as well. Consequently, no further mention was made of their use. The same precautions were taken with reference to the use of the blackboard. Technical terms were spelled aloud for the radio audience.

Since the first class meeting was used for the division of the group and the explanation of the procedure, there remained twenty-six class meetings. Two of these were used for examinations, leaving time for twenty-four lectures.

These were divided into two groups of twelve each, with the mid-session examination at the end of the first group of twelve, the final at the end of the second series.

The first examination consisted of 70 questions, 35 multiple choice, and 35 completion. The final examination was made up of 70 completion questions, being shorter than the mid-quarter to allow time for the students to answer a brief inquiry concerning their reactions to the radio versus the classroom situation. Two forms of each examination were used on each occasion, and the radio and classroom sections were brought together for the examinations.

#### QUANTITATIVE RESULTS

The quantitative results of the experiment are summarized in Table I. In grading the examination papers the student was given one point for each question he answered correctly. No penalty was exacted for wrong answers, and no adjustment was made for the number of questions answered incorrectly.

In reading Table I it should be remembered that the group which was in the classroom for the first half of the course, was in the radio section for the second half, and vice versa. An inspection of the table shows that no statistically significant difference was produced by the two methods of instruction. The total number of students was 98 with 49 in each group. (Actually there were five more in the class, but they did not take both examinations and consequently were not included.)

TABLE I

	Mean score		Standard deviation		Diff.	C.R.
	Classroom groups	Radio groups	Classroom groups	Radio groups		
Mid-session	37.7	38.5	10.3	9.7	.8	.39
Final	44.9	43.1	11.0	10.1	1.8	.85

If we combine the mid-session and final scores of the two groups we find that the one which listened to the radio for the first half of the session, has a mean score of 83.4 for the entire course, with a standard deviation of 6.4, while the mean score of the group that began in the classroom is 80.7 with a standard deviation of 6.3. The difference between the two means is 2.7 which gives a critical ratio of 2.08. This indicates that the two groups are probably of equal ability.

Some light on the reliability of the tests and on the possible differential effect of radio versus classroom instruction on individual students may be obtained by correlating the mid-session scores with the final scores for each of the groups. In the case of the group which spent the first half of the session in the classroom this correlation is  $.83 \pm .045$  and for the other group it is  $.83 \pm .030$ . It is, of course, impossible to separate the relative influence of errors of measurement and differential response of individuals to the two situations, but in any case the coefficients are of sufficient magnitude to give us confidence in the reliability of the tests used.

#### SUBJECTIVE REACTIONS

Before filling out the final examination blank the students were asked to indicate on a mimeographed form their reactions to these four questions:

1. ( ) In regard to concentration, I find it  
(1. easier when listening to the radio;  
2. easier in the classroom; 3. makes no difference).
2. ( ) I find that the class period (1. seems to go faster in the classroom; 2. goes faster while listening to the radio; 3. is equally long in the two situations).
3. ( ) If I had my choice in the second quarter of General Psychology (1. I would prefer the classroom lecture; 2. I would prefer the radio lecture; 3. I would have no preference).

4. ( ) I found listening to the radio (1. more convenient; 2. less convenient; 3. of no value from the standpoint of convenience).

The responses of the class to these questions are indicated in Table II.

TABLE II

Question	Responses (%) to Number		
	1	2	3
1	17	58	24
2	50	29	21
3	63	27	10
4	69	7	23

In spite of the fact that the quantitative results show no advantage for either of the two situations, the students indicate some rather strong subjective reactions. Fifty-eight per cent of the group feels that it is easier to concentrate in the classroom. Several students made a spontaneous statement to this effect, and the instructor made inquiries concerning the presence of disturbances in the auditorium in which the loudspeaker was installed, since it is possible that a group of students in a room without the presence of an instructor would engage in activities not conducive to concentration. So far as could be found, however, no such factors were involved.

One half of the students felt that the class period seemed to go faster when they were in the classroom than when they were listening to the radio, and 63% of them preferred that the course be given in the classroom rather than by radio. This preference occurred in spite of the fact that 69% of the students found listening to the radio more convenient than going to class.

#### DISCUSSION

If we accept the statistical results of this experiment at face value we may conclude that the radio is equally effective with the classroom situation in giving lecture instruction in General Psychology. However, there is one fac-



tor which was obviously not controlled in this, or in similar studies: the effect of the microphone in the classroom. The knowledge that what is said is being broadcast may have a restricting influence upon the instructor. He may not feel free to engage in the various form of by-play which can be used in the ordinary classroom situation to attract and hold the attention of the students. The instructor in this experiment felt, although the attention in the classroom was good, that the lectures assumed a more formal nature than they do in conventionally taught classes. This opinion, of course, may not be borne out by further experimental evidence. It should be added that this was the instructor's first experience in broadcasting, and the novelty of the situation may have impressed him unduly.

If it were possible, it would be desirable to run the experiment with three groups: (1) one in the classroom with the microphone, (2) one in the classroom without the microphone, (3) and one listening by radio. It is possible that the group in the classroom without the microphone would achieve higher scores than the other two.

The closest that we can come at the moment to the suggested second condition is to consider the scores of a group of 182 students who took the same examination in a conventionally taught class. This latter group had a mean mid-session score of 42.4 with a standard deviation of 8.85 as against a mean score of 37.7 for the experimental group in the classroom for the first half of the summer session. This gives a difference of .7 in

favor of the conventionally taught group, and a critical ratio of 7.1, indicating a statistically significant difference in the means of these groups.

Unfortunately, other variables exist in addition to the presence or absence of the microphone. The conventionally taught class met three times a week, the summer section five times. The regular lecture periods were fifty minutes long instead of forty-five, and there were a few more of them. In addition there may have been some difference in the selection of students, the summer session possibly including a greater percentage of those who had previously failed this or other courses. It is impossible to estimate the influence of these various factors, and the comparison would not have been made had not the instructor had the feeling that the summer session class did not seem as strongly motivated as were the classes during the regular academic year. No data on this point were gathered.

It is not the purpose of this brief paper to speculate about the use to which radio may be put in extending the influence of the conventional classroom. Such speculation has appeared in the literature for years, some of it based upon experimental evidence, some of it upon limited experience. This preliminary study indicates that where motivation is held constant, where similar library facilities are available, and where ability and academic sophistication are to some extent controlled, radio lectures can do a satisfactory job as measured in terms of recall on an objective test.

## THE RELATIVE EFFECTIVENESS OF TWO MODES OF RADIO DELIVERY IN INFLUENCING ATTITUDES

JOHN E. DIETRICH\*

*University of Wisconsin*

THIS investigation seeks to determine, under experimental conditions, the relative effectiveness of the dynamic and conversational modes of radio speaking in influencing attitudes.

Radio announcers and commentators seem to believe that persuasive effectiveness depends upon a dramatic and forceful style of delivery. This study tests the validity of this assumption. The findings should help the radio speaker to choose his most effective manner of delivery.

The terms "dynamic" and "conversational" require definition. The most apparent variation in current broadcasting seems to be in the degree of dynamics, i.e., the total expenditure of energy. The terms "dynamic" and "conversational" designate different points on a scale of dynamic presentation. Dynamic delivery is characterized as involving great enthusiasm, considerable volume, emphatic use of the downward inflection, a moderately fast rate, a slightly raised pitch, sustension of the vowels, a somewhat dramatic quality, and a basic formality of manner. The conversational delivery, on the other hand, implies greatly reduced dynamics, a quiet genuineness, little use of volume for emphasis, moderate rate and pitch, and an informal manner.

With reference to these two styles of delivery, this study is designed to answer the following major questions:

- I. Do the dynamic and conversational modes of delivery, as used by the

radio speaker, differ significantly in their effect upon attitudes?

- II. Can a fifteen-minute radio speech, designed to influence attitudes, influence those attitudes significantly?

- III. In which form of delivery are the listeners more interested?

### EXPERIMENTAL PROCEDURE

Steps in preparing to measure the relative effectiveness of the two modes of delivery include, (1) the choice of a topic or attitude variable, (2) the preparation of a test to measure the changes in attitude, (3) the preparation of a persuasive speech on the topic, (4) the selection of speakers, (5) the selection of audiences.

The listener's attitude toward Russia was chosen as the topic for persuasion. The speaker's purpose was to build greater confidence in and liking for Russia and the Russian people. The experiment was conducted in 1944. The topic was, and remains, timely. There was a wide range of opinion from active friendship to equally active hostility toward Russia. At the same time there was little social pressure in favor of any attitude. Listeners were free to state their opinions.

Since no attitude test on Russia was available, it was necessary to construct one. The method developed by Likert was used, involving these eight steps:

- (1) Groups of college students were asked to write their opinions about Russia. Since college students were to serve as subjects in the experiment, this method was used to make certain that the statements in the test would be

\*From a dissertation submitted in partial fulfillment of the requirements for the degree of Doctor of Philosophy, at the University of Wisconsin, 1945.

couched in popular language and reflect current student attitudes. Over 700 statements were collected.

(2) A panel of experts eliminated any statement which was not an expression of opinion. One hundred per cent agreement among the experts was required for the retention of each item. After this elimination 175 statements remained.

(3) Next, the statements were tested for ambiguity. Each statement was presumed to be an expression of attitude either for or against Russia. Again, any statement which was not judged with 100% consistency as to its direction was removed. After this trial 136 statements were left.

(4) Wang's<sup>1</sup> fifteen criteria for writing attitude statements were applied and, on this basis, the number of items was reduced to 100.

(5) Scale values were assigned to the five possible responses to each attitude statement: agree strongly, agree, undecided, disagree, disagree strongly.<sup>2</sup> Each of these positions was given a numerical rank from 1 to 5. If the item was favorable to Russia, strong agreement scored five, agreement four, etc. If the statement was unfavorable to Russia, the scale values were reversed. These values were assigned in accordance with the previous judgments of direction.

(6) The statements were tested for internal consistency, i.e., the degree to which each test item will differentiate between a person disposed in favor of Russia and one hostile to Russia. Using the method applied in most educational research, those subjects who, on a trial run of the scale, received scores in the upper half were compared with those

receiving scores in the lower half. Forty statements differentiated to a doubtful degree and were eliminated. Table I shows that the correlation with an outside criterion is higher when these statements are removed. Further reduction in the number of statements impairs this correlation. For this reason 60 items were included in the survey.

TABLE I  
CORRELATION BETWEEN GRAPHIC RATING AND  
ATTITUDE SCORES WITH THE 100, 60, 40 STATE-  
MENTS SHOWING THE GREATEST DIFFERENTIATION  
FOR 90 SUBJECTS.

No. of Statements	Coefficient of Correlation	Standard Error
100	.63	.06
60	.80	.04
40	.73	.05

(7) Validation presents one of the major problems underlying any attempt to develop an attitude scale. Correlation with an outside criterion is one method of validation. In this experiment the scores on the attitude survey were correlated with scores on a graphic rating scale having an identical range. The amount of credence given to this method depends upon the acceptance of the assumption that no person is more aware of the subject's attitude toward Russia than the subject himself. Table I shows a high correlation is present. This is particularly true for the 60 statement questionnaire. Several opportunities to observe actual overt behavior of individual subjects indicated a distinct positive relationship between their action and their rank on the attitude scale. Similar results were obtained by Likert<sup>3</sup> and Stouffer.<sup>4</sup>

<sup>3</sup> Likert, R., "A Technique for the Measurement of Attitudes," *Archives of Psychology*, No. 140 (1932), p. 32.

<sup>4</sup> Stouffer, S. A., "An Experimental Comparison of Statistical and Case-History Methods of Attitude Research," *American Sociological Society Paper and Reports*, XXV (1931), 145-147.

<sup>1</sup> Wang, C. K. A., "Suggested Criteria for Writing Attitude Statements," *Journal of Social Psychology*, III (1932), 367-373.

<sup>2</sup> Murphy, G., and Likert, R., *Public Opinion and the Individual* (New York, 1938), p. 40.

(8) The reliability of the scale was tested by two different methods. A split-half correlation, stepped up with the Spearman-Brown prophecy formula, yielded corrected correlations for one pre-test and one post-test sample of .96 in each case. The reliability coefficient for a repetition of the scale was .93 with a one week time lapse, .88 with an eight week time lapse. Since the reliability coefficients were high enough for individual prediction and were to be used for group prediction, the scale was judged reliable.

The next step was the preparation of a fifteen-minute persuasive speech designed to shift attitudes in favor of Russia. The writing was done by a professional radio writer who was instructed, (a) to use the form and style of the radio commentary, (b) to deal with opinions included on the attitude scale, (c) to produce a script that could be equally adapted to the dynamic and conversational modes of delivery.

Six men were chosen to present the speeches. Their personalities and voices were as widely different as was compatible with good broadcasting. All were familiar with the techniques of radio speaking and three had had professional radio experience. Each speaker read the experimental script in two different ways: once with a dynamic delivery, once in a conversational manner. The programs were recorded on high grade acetate discs. When the subjects were asked to evaluate the program, over 80% judged it to be of average or better than average broadcast quality.

The 760 experimental and control subjects were students in speech classes at the University of Wisconsin. More than one-third were servicemen. The inclusion of this group with its diverse socio-economic and geographic background broadened the base of the study.

The experiment was conducted in six trials, one for each speaker. In each trial the first step in the experimental procedure was the administration of a pre-test. The pre-test consisted of the attitude survey, a graphic rating attitude scale, and a request for general information about the student's background.

The subjects for each trial were then divided into two experimental groups and a control group upon the basis of the information collected in the pre-test. One week after the pre-test the experimental broadcasts were presented. One of the experimental groups heard the speaker's dynamic presentation of the script; the other heard the same speaker deliver the material conversationally. The control group was not stimulated.

Immediately after the broadcast the post-test was given. The post-test had five units, the attitude survey, the graphic rating attitude scale, a graphic rating interest scale, a series of questions concerning the worth of the program, and a space for any pertinent observations. In two of the trials a delayed post-test was administered two weeks after the broadcast.

For each experimental group, the difference between the mean score on the pre-test and the mean score on the post-test was the measure of the shift in attitude obtained by the program. The difference between these shifts in attitude established the relative effectiveness of the dynamic and conversational deliveries.

#### ANALYSIS OF THE DATA

As this study used the equivalent group technique, it was important that the subjects be matched with regard to any factor which might influence the results. Six variables were isolated and tested. They were initial attitude, age, sex, intelligence, political affiliation, and



religious affiliation. Each of these factors was correlated with shift in attitude. No statistically significant relationships were found. For this reason it was not deemed necessary to match the subjects.

Except for the variables specifically considered above, the groups were similar in educational background and level. Differences which may have existed in socio-economic background and status were too intangible to be directly analyzed. However, since the classes acting as experimental subjects were assembled completely at random, it may be assumed that these and any other chance factors would cancel out.

Before answering the questions with which this study began, the usual word of warning should be inserted. Any interpretation of the results to follow may be stated only for situations directly comparable to those found in this experiment. The conclusions can, for example, be applied directly only to listeners of college age.

- I. Do the dynamic and conversational modes of delivery, as used by the ra-

dio speaker, differ significantly in their effect upon attitudes?

The difference between the mean shifts in attitude obtained by the two types of delivery was calculated for each of the six pairs of experimental groups. The statistical significance of this difference was established by computing a critical ratio based on standard error.<sup>5</sup>

With a critical ratio of 2.00 there is a probability of approximately five per cent that any difference as great as the observed difference will be due to chance. A critical ratio of 3.00 indicates that the difference will occur by chance only one time in one hundred or one per cent. For data of the sort used in this experiment, the five per cent level of significance is now widely accepted. Any difference which attains the five per cent level will be considered significant. When a difference is such that the one per cent level applies, it will be noted.

The results are recorded in Table II. The estimates of chance were obtained from a table of normal areas. For each

<sup>5</sup> McCormick, T. C., *Elementary Social Statistics* (New York, 1941) pp. 261-63.

TABLE II  
A COMPARISON OF IMMEDIATE SHIFTS IN ATTITUDE ATTAINED BY TWO MODES OF DELIVERY, SIX SPEAKERS CONSIDERED INDIVIDUALLY.

Speaker	Stimulus	No. of Subjects	Mean Shift	Diff. Between Mean Shifts	S.E. of Diff.	C.R.	Probability of Observed Diff. Occurring by Chance
A	Conver.	86	14.94				
A	Dynamic	97	9.13	5.81	3.78	1.54	12
B	Conver.	69	10.33				
B	Dynamic	72	9.28	1.05	3.13	.30	76
C	Conver.	41	19.24				
C	Dynamic	38	14.86	4.38	3.05	1.44	15
D	Conver.	29	18.54				
D	Dynamic	24	18.43	.11	3.16	.04	97
E	Conver.	38	15.90				
E	Dynamic	39	13.70	2.20	4.43	.50	62
F	Conver.	33	14.48				
F	Dynamic	34	11.12	3.36	2.80	1.20	23

of the six speakers the difference between mean shifts is in favor of the conversational delivery. The probability of this consistency of direction or sign occurring by chance is determined by the formula  $P = p^n$ . The probability of the conversational delivery being consistently superior in six trials is only 1.6 in 100. This result is significant at the five per cent level. We may conclude that the conversational delivery will consistently have a greater influence on attitudes than the dynamic delivery.

The next step is to consider the significance of the difference for each of the six speakers. These critical ratios appear in Table II, and all fall below the 2.00 criterion. Without the supporting data provided by the other five speakers, no speaker could be sure that the larger attitude shifts he produced when he spoke conversationally were not due to chance.

One further step is indicated. Does a significant difference materialize when the results of the six speakers are combined? The six critical ratios were combined by applying the formula,

$$CR = \sqrt{\frac{n-1}{n^2}} \sum \frac{n}{c_{diff.}}$$

The resultant critical ratio of 1.87 cannot be considered significant. The size of the critical ratio would seem to indicate, however, that there is a greater tendency for the conversational delivery to shift attitudes more effectively when the number of trials is increased.

## II. Can a fifteen-minute radio speech, designed to influence attitudes, influence those attitudes significantly?

A fair evaluation of the persuasive strength of the program must consider any extraneous influences which may alter the attitude during the period between the pre-test and the post-test. Con-

trol groups which heard no broadcast, but were pre-tested and post-tested at the same times as the experimental subjects, recorded the effect of the social milieu. A comparison between the shift in attitude of the control groups and that of the experimental groups will indicate the effect of the program.

In each trial the mean attitude shift of the experimental group was greater than that for the control group. (See Table III.) Critical ratios for these differences range from 5.35 to 8.09. All of them attain the one per cent level of significance. Thus, we may answer the question in the affirmative. The fifteen-minute radio broadcast, regardless of speaker or style of delivery, does influence attitudes significantly.

### A. If there are statistically significant shifts in attitude, are they of sufficient size to be of practical value?

If we consider the average difference in attitude shift between the experimental and control groups for all of the speakers and subjects combined, the shift is 13.13 or 5.4% of the total possible range.

There is no statistical method for determining whether or not such shifts are of practical worth. However, it is the author's opinion that an average shift in attitude of one-third of the distance between neutral and favorable or any other two steps on the scale is of considerable practical importance.

### B. Are the shifts in attitude brought about by the radio program maintained for a two-week period?

A delayed post-test was administered two weeks after the post-test for two of the speakers. A definite regression of the mean group attitude was recorded. The range of the regression was from 19.4% to 46.8% of the change of attitude produced by listening to the program.

TABLE III  
A COMPARISON OF IMMEDIATE SHIFTS IN ATTITUDE ATTAINED BY EXPERIMENTAL AND CONTROL GROUPS, SIX SPEAKERS CONSIDERED INDIVIDUALLY

Speaker	Subject Group	No. of Subjects	Mean Shift	Diff. Between Mean Shifts	S.E. of Diff.	C.R.	Probability of Observed Diff. Occurring by Chance
A	Experi.	183	11.86	13.73	2.18	6.29	1—
A	Control	54	-2.43				
B	Experi.	141	9.80	11.30	2.11	5.35	1—
B	Control	56	-1.50				
C	Experi.	79	17.14	16.89	2.14	7.89	1—
C	Control	24	.25				
D	Experi.	53	18.47	18.22	2.25	8.09	1—
D	Control	24	.25				
E	Experi.	77	14.80	16.64	2.55	6.52	1—
E	Control	25	-1.84				
F	Experi.	67	12.72	14.56	1.91	7.63	1—
F	Control	25	-1.84				

A comparison of the experimental and control groups on the delayed post-test provided critical ratios of 3.71 and 3.86. Such a difference could occur less than one time in 100 by chance.

In summary, the radio speech did shift attitudes significantly and, though there was considerable regression, the shifts were still significant after a two-week period.

III. In which form of delivery are the listeners more interested?

Immediately following the broadcast the subjects recorded their interest in the program by checking a graphic rating interest scale. In each trial the average interest rating scored by the dynamic subjects was compared with that of the conversational subjects. These interest scores may be compared because the groups are equivalent and the programs are comparable except for style of delivery. The results are found in Table IV.

TABLE IV  
A COMPARISON OF INTEREST RATING ATTAINED BY TWO MODES OF DELIVERY FOR SIX SPEAKERS CONSIDERED INDIVIDUALLY

Speaker	Stimulus	Subjects	Interest Mean	Diff. Between Mean Shifts	S.E. of Diff.	C.R.	Probability of Observed Diff. Occurring by Chance
A	Conver.	86	214.19	13.00	2.41	5.39	1—
A	Dynamic	97	201.19				
B	Conver.	69	218.77	22.31	3.84	5.81	1—
B	Dynamic	72	196.46				
C	Conver.	41	220.98	27.16	3.36	8.08	1—
C	Dynamic	38	193.82				
D	Dynamic	24	216.88	13.09	5.07	2.58	2
D	Conver.	29	203.79				
E	Dynamic	39	218.08	17.55	5.51	3.18	1—
E	Conver.	38	200.53				
F	Dynamic	34	205.15	22.43	5.43	4.13	1—
F	Conver.	33	182.72				

The total range of interest which could be expressed was the same as the range in attitude, i.e., from 60 to 300 with the neutral point at 180. Column 4 of Table V shows that the average group interest rating lay between a neutral and a favorable response to the broadcast. Preliminary examination indicated an approximately normal distribution of the responses about the means listed in the table.

The six critical ratios establish a high probability that observed differences were not due to chance. There is, however, no consistency in the direction of the difference. The subjects for Speakers A, B, and C preferred the conversational to the dynamic; for Speakers D, E, F, this preference was reversed.

This confusion of results leads to the conclusion that preference for a particular style of delivery depends upon a complex of individual speaker differences not measured by the graphic rating scale of interest.

In addition to these major conclusions, the data provided answers to a number of supplementary points. The results are reported below.

A. How is the amount of interest expressed in the program related to the size of the shift in attitude brought about by the broadcast?

Product-moment correlations were computed between interest score and shift in attitude for three random samples of 100 subjects. Preliminary examination of the data showed that linear correlation was present. Similar results were found for each of the samples. The correlations were positive in sign and ranged from .40 to .48 with a standard error of .08. From this we may conclude that the amount of interest expressed in the program is positively and significantly related to the effect of the program in influencing the subject's attitudes.

B. How is the amount of interest expressed in the program related to the original attitude held by the subject?

The procedure employed to answer this question is identical to that used above. The three correlations were positive in sign and ranged from .32 to .40 with a standard error of .09. The conclusion here is similar to that found in other published research. The more an individual tends to agree with a given point of view the greater is his interest in its expression.

C. Is the graphic rating attitude scale a sufficiently refined instrument for the determination of small changes in attitude?

Correlations ranging as high as .80 were found between the Likert scale and the graphic rating scale (see Table I). This presented the possibility that the graphic rating scale might be substituted throughout the experiment for the more cumbersome Likert survey. It was found, however, that the graphic rating scale did not reflect small changes in attitude. Two possible reasons for its failure may be cited. First, the smallest feasible divisions on the graphic rating scale were fifteen points. This meant that any change in attitude smaller than this amount would not be recorded. A second cause for failure may be a memory factor. The subject registered his opinion with a single check. The placement of the check may be remembered from one testing to another.

D. Subjective analysis and interpretation of the "free report" responses to the broadcast.

In a limited survey of free responses, 41 of the subjects declared the dynamic broadcasts to be propaganda. Only two of the subjects so labelled the conversational broadcast. This would lead to the assumption that for some college students there is a direct relationship



between vigor and aggressiveness in vocal style and the tendency to label speech material propaganda.

#### MAJOR CONCLUSIONS

1. The radio commentator's conversational delivery is more effective than his dynamic delivery in shifting attitudes.
2. The differences in the attitude changes produced by the conversational and dynamic modes of delivery are so small that the conscious effort of a radio speaker skilled in the dynamic delivery to employ a conversational style may not pay dividends.
3. A fifteen-minute radio speech, designed to influence attitudes, does influence attitudes significantly regardless of the style of delivery employed.
4. The shift in attitude brought about by the radio speech, regardless of the style of delivery, is of considerable practical importance.
5. The attitudes, shifted as a result of the radio broadcast, tend to regress toward the original position, but are still significantly shifted after a two-week period.
6. Strong differences in interest in favor of each style of delivery exist; the direction of these differences appears to depend upon the speaker.

#### SUPPLEMENTARY CONCLUSIONS

1. Subjects expressing the greater interest in the program were more extensively shifted than those expressing lesser interest.
2. Subjects expressing the greater interest in the program held original attitudes more favorable to the program content than those expressing lesser interest.
3. A graphic rating scale will not reflect small changes in attitude.
4. Subjects tend to label the dynamic

delivery propaganda more often than the conversational delivery.

#### PRACTICAL IMPLICATIONS

How should the results of this study affect the radio speaker? A series of tentative conclusions and provocative implications may be derived from the experiment. It has been shown that a real difference in favor of the conversational delivery exists. Even though the difference is small it should be considered in relation to the total complex of elements which constitute speech making. When we consider that vocal delivery is only one element in effective speaking, it is possible that a slight increase in the effectiveness of the vocal delivery coupled with increased effectiveness in other aspects of speaking may have, when added together, a considerable resultant influence.

For the speaker who is concerned with the full use of every possible persuasive device, this experiment would suggest the use of a conversational style. On the other hand, for the average speaker, who probably doesn't use any of the persuasive elements to their greatest advantage, any difference in the style of delivery would seem to be of small consequence.

Furthermore, the analysis of the interest responses reveals that for some speakers a dynamic delivery is preferred, while for others the conversational is preferred. Perhaps, since there is an inconclusive difference in the persuasive effect of the two deliveries, the selection of delivery should be based upon the amount of interest it is able to evoke. Before such a conclusion may be applied, this relationship must be more thoroughly studied.

Radio listening indicates that radio broadcasters feel they must be dynamic. However, this investigation establishes conclusively that *either* the dynamic delivery *or* the conversational delivery will shift attitudes effectively.

## A CRITICAL REVIEW OF THE LITERATURE ON THE VALIDITY AND RELIABILITY OF THE AUDIOGRAM

JAMES CARRELL  
*University of Washington*

and

GENEVA JEFFERS GORMLEY  
*University of Washington*

SINCE the present day type of pure tone audiometer became available in 1922,<sup>1</sup> it has come into wide use by otologists, speech clinics, schools, and others. Because the instrument is relatively new, it is now surprising that audiometry is not as highly developed as probably it some day will be or that there still are legitimate questions as to what exactly the audiometer tests and how well it does so.<sup>2</sup>

As a possible aid in understanding the present status of audiometry, this paper attempts to review and evaluate what seems to be the most significant literature on the reliability and validity of audiometric tests. The material is grouped around the following questions:

1. Do audiograms meet criteria of validity?
  - a. Is the audiometer properly adjusted to the normal threshold of hearing?
  - b. Do audiograms give an accurate picture of hearing for diagnostic purposes and for predicting the ability to understand speech?
2. Do audiograms meet criteria of reliability?
  - a. What is the reliability of repeated tests for air and bone conduction?
  - b. How does the use or non-use of sound proof rooms affect the apparent threshold of hearing?
  - c. Do testing procedures affect reliability?

### 1. THE VALIDITY OF THE AUDIOGRAM

The audiometer will not yield valid results, of course, unless it actually pro-

vides the kind of information about hearing it is supposed to supply. This section of the present paper undertakes to examine the literature pertaining to several aspects of audiometry which may be considered basically problems of validity.

Specifically, the following questions arise: (1) Are the air and bone conduction threshold sound intensities employed in the calibration of the audiometer properly adjusted to normal hearing? (2) Do audiograms give an accurate picture of hearing for diagnostic purposes and for predicting the ability to understand speech?

#### (a) *The validity of audiometer calibration.*

Early determinations of the loudness threshold of hearing were made by Toepler and Boltzman, Rayleigh, Wead, Wein, Webster, and Abraham. However, it was not until the development of more exact methods of measurement that the sound intensities at the threshold could be satisfactorily expressed. Arnold and Crandall and later, Wentz, as well as Kranz, made important observations.<sup>3</sup>

The threshold values first employed in calibration of the audiometer were those of Fletcher and Wegel,<sup>4</sup> who published their results in 1922. Although many observers were used in working out certain problems, it is apparently substantially correct to say that the threshold intensities employed in calibrating the Western

<sup>1</sup> For a history of the audiometer see Bunch, C. C., "The Development of the Audiometer," *Laryngoscope*, LI, 12 (1941), 1100-1118.

<sup>2</sup> The audiometers now in common use and accepted by the American Medical Association are manufactured by the Maico, Western Electric, and Sonotone Companies. In this paper the term "audiometer" will be used always to refer to the pure tone instrument, except where otherwise specified.

<sup>3</sup> Fletcher, H., *Speech and Hearing* (New York, 1929), pp. 132-142.

<sup>4</sup> Fletcher, H., and Wegel, R. L., "The Frequency Sensitivity of Normal Ears," *Physical Review*, 19 (1922), 553.

Electric 1A audiometer, and the later 2A instrument, were obtained from 82 ears of 41 adult employees of the Bell Telephone Laboratories. All subjects were judged normal in hearing and received otoscopic examinations.

Originally not all audiometers were calibrated to a uniform scale. In 1939, however, the Council on Physical Therapy of the American Medical Association set up minimum requirements for audiometers which specified a standard set of threshold values. These threshold values were derived from an extensive study made under the direction of Beasley during the National Health Survey of 1935-36 and published in 1938.<sup>6, 7</sup> Audiometers made by the Maico, Western Electric, and Sonotone Companies subsequently were accepted.

Beasley and his co-workers tested air and bone conduction thresholds of 1,242 persons, using sound proof rooms. No audiogram was used in the final calculation when a medical examination and case history of the subject disclosed any possibility of hypacusia or when there was a variation of more than 20 db. in the threshold at any frequency. An adequate presentation of Beasley's data is impossible in the present paper and the reader who is called upon to make frequent interpretations of audigrams is referred to the original study. However, his chief conclusion with respect to the calibration of the Western Electric 2A audiometer was that, when data for the better ear were considered, threshold intensities

were approximately correct for tones of 64, 128, 1,024, and 2,048 cycles. The closest correspondence was at 1,024 and 2,048 c.p.s. The intensity output on 64 and 128 c.p.s. appeared to be about 2.5 db. too weak. At 256, 512, 4,096, and 8,192 c.p.s. the tones were 5 db. too weak. When the average of all ears was considered, the curve ran about 2.5 db. higher, while the curve for the worse ear in each subject was about 5 db. higher.

Although the earlier work of Fletcher and Wegel perhaps could have been regarded as somewhat tentative in view of the relatively small number of subjects employed, there would seem to be no reason for questioning the validity of the Beasley scale values now used by acceptable audiometers.

(b) *The audiometer as a diagnostic instrument and as a measure of the ability to understand speech*

Whether or not the audiogram shows how well the subject hears depends, of course, on how the term hearing is defined. In general, the audiometer is used as (1) a diagnostic instrument and (2) as a means of judging the ability of the subject to understand speech. The fitting of hearing aids and other practical problems are closely associated with the latter function.

(1) THE AUDIOMETER AS A DIAGNOSTIC INSTRUMENT

There seems to be a rather unanimous opinion among practicing otologists that the audiometer represents a distinct advance in diagnostic technique. Goldman,<sup>8</sup> Hill,<sup>9</sup> Senturia and Thea,<sup>10</sup> Neil,<sup>11</sup>

<sup>5</sup> Report of the Council on Physical Therapy, "Minimum Requirements for Acceptable Audiometers," *Journal of the American Medical Association*, 113 (1939).

<sup>6</sup> National Health Survey, 1935-1936, Preliminary Reports, "Normal Hearing by Bone and Air Conduction," *Hearing Study Series*, Bulletin 4, The United States Public Health Service (Washington, D. C., 1938).

<sup>7</sup> National Health Survey, 1935-1936, Preliminary Reports, "Normal Hearing for Each Decade of Life," *Hearing Study Series*, Bulletin 5, The United States Public Health Service (Washington, D. C., 1938).

<sup>8</sup> Goldman, Joseph L., "A Comparative Study of Whisper Tests and Audiograms," *Laryngoscope*, LIV (1944), 550-572.

<sup>9</sup> Panel Discussion, "Information Please: Regarding Hearing Aids and Audiometers," *Laryngoscope*, L (1940), 1054-1085.

<sup>10</sup> Senturia, B. H., and Thea, A. R., "Bone Conduction in Audiometry," *Laryngoscope*, LII (1942), 675-686.

<sup>11</sup> Neil, J. H., "Testing the Auditory Acuity in Soldiers and Assessing the Overall Capacity for Hearing of Speech," *New Zealand Medical Journal*, 42 (1943), 218-226.

Kobrak,<sup>12</sup> Dickson, Littler, and Ewing,<sup>13</sup> Stern,<sup>14</sup> Cawthorne, Watkyn-Thomas and many others have made such comments. Jones<sup>15</sup> seems to reflect the general opinion when he says: "At last the otolaryngologist is beginning to recognize that audiometry is not only a legitimate, but a necessary part of his practice.

Among the advantages most prominently mentioned in the foregoing studies is the use of the audiometer in aiding in a differential diagnosis between conductive and perceptive types of deafness. Others declare it is valuable in prognosis, in detecting early deafness, in discovering occupational deafness, in diagnosing hereditary deafness and various other conditions. There are many studies describing typical audiograms in various types of pathologies affecting the ear, although the critical reader will note that most of these are based on observation of a rather limited number of cases.

## (2) PREDICTING THE ABILITY TO UNDERSTAND SPEECH FROM THE AUDIOGRAM

Whether or not the audiogram provides an adequate means of predicting the ability of the subject to understand speech is an interesting question on which there are several studies leading to rather divergent results. They may be

<sup>12</sup> Kobrak, H. G., Lindsay, J. R., and Perlman, H. B., "Experimental Observations on the Question of Auditory Fatigue," *Laryngoscope*, LI (1941), 798-810.

<sup>13</sup> Ewing, A. W. F., "Discussion on Audiometric Tests and Capacity to Hear Speech," *Journal of Laryngology and Otology*, 55 (1940), 339-355. (The comments of Dickson, Littler, Ewing, Cawthorne and Watkyn-Thomas all are included in this report.)

<sup>14</sup> Stern, L., "Diagnostic Significance of Audiograms in Deafness with Special Reference to 'Dips,'" *Zeitschrift für Nasen und Ohrenhören*, 47 (1940), 150, quoted by Lewy, A., and Leshin, N., "Progress in Otolaryngology, Functional Examinations of Hearing," *Archives of Otolaryngology*, 35 (1942), 437-479.

<sup>15</sup> Jones, I. H., and Knudson, V. O., "What Audiometry Can Now Mean in Routine Practice," *Journal of the American Medical Association*, 111 (1938), 597-605.

grouped into those studies (1) comparing tests of hearing in which speech is used with audiometric examinations and (2) investigations of the so-called "recruitment factor" in impairments in audition from nerve losses.

### (a) Comparison of audiometer and speech tests

A positive correspondence between audiometric and word tests has been reported by Guilder,<sup>16</sup> Utley,<sup>17</sup> and Hughson and Thompson.<sup>18</sup>

Guilder chose for her subjects persons in the first three decades of life having types of deafness not associated with suppurative middle ear diseases. All were given complete otological examinations, including the Rinne and Weber tests, audiometric examinations, and speech hearing tests. The latter were of two types: (1) determination of the amount of amplification necessary to understand a list of 50 words when a phonograph attachment was provided for the audiometer and (2) voice tests where the subjects used unaided binaural hearing and the loss was figured in terms of the distance in feet the words could be understood. The following tabulation shows the amplification necessary for 90 per cent accuracy in word tests in relation to the amount of loss shown by the audiogram:

Loss	Amplification
20-40 db.	5-30 db.
40-70 db.	35-55 db.
70-80 db.	55-60 db.

Guilder observed that in cases of nerve deafness the audiogram approached the

<sup>16</sup> Guilder, Ruth P., "Audiometric and Word Test Findings—Preliminary Report," *Annals of Otology, Rhinology, and Laryngology*, 52 (1943), 25-34.

<sup>17</sup> Utley, Jean, "The Relation Between Speech Sound Discrimination and Percentage of Hearing Loss," *Journal of Speech Disorders*, 9 (1944), 103-113.

<sup>18</sup> Hughson, Walter, and Thompson, Eva, "Correlation of Hearing Acuity for Speech with Discrete Frequency Audiograms," *Archives of Otology*, 36 (1942), 526-540.



normal in lower frequencies, but showed a sharp drop in the higher pitches. The voice could be heard at a normal distance and some of the vowels recognized, but many consonants were unintelligible beyond a few inches from the ear. A numbers test could often be passed when word test scores were only 50 or 60 per cent accurate. A typical patient's remark was, "I can hear you perfectly, but I can't understand a word you say." Guilder concludes:

The audiogram is, therefore, a clear indication of the individual's ability to hear speech and deviations in the graph at any point between 90 and 8,000 cycles are usually reflected in some diminution in the individual's hearing of speech. . . . The former discrepancies between audiogram and voice tests have been due in large part to a comparison of the audiogram with a spoken number test instead of with word tests given under controlled conditions.

Utley in 1944 investigated the relationship between the ability to discriminate phonetic units and the impairment of hearing as revealed by five methods of calculating percentage of loss from the audiogram.<sup>19</sup> Her subjects were 51 pupils in a school for the deaf, all of them with markedly reduced audition. A group hearing aid was used.

Seventeen vowel and diphthong sounds and 24 consonant sounds were used in making up the test material. Word lists were presented in pairs in such a way that those in any given pair differed by only one sound; e.g. "good-wood", etc. The vowel list contained 131 pairs and the consonant list 274 pairs.

She found a correlation coefficient of .84 between scores on the vowel and consonant lists and concludes further that:

For all methods of figuring percentage loss of hearing there is a high positive correlation be-

tween percentage of loss and discrimination scores. The most surprising thing is the limited range of these correlations—from .85 to .88.

In 1942 Hughson and Thompson reported the results of extended research to determine the relationship between the practical disability in understanding speech imposed by hearing losses and the threshold of hearing for pure tones.

Their apparatus consisted of a microphone, an amplifier with an appropriate attenuator, a volume indicator and a loud speaker and telephone receivers which could be interchanged. The receivers were arranged so that either or both ears could be tested. Both the microphone and the subjects were in different sound proof booths. In the speech tests, subjects were required to repeat verbatim sentences delivered by the operator, following the method of Fletcher.<sup>20</sup> Subjects were placed at a standard distance from the loud speaker (10') when it was used. The authors state that they found it possible to develop very accurate control over the loudness of their voices by watching the needle of the volume indicator as they called the sentences.<sup>21</sup> Enough sentences were used in each test so that any spoken too loudly or softly could be discarded in the analysis of the results.

They first established the normal threshold for speech intelligibility in terms of their amplifying system. This was the amount of amplification necessary before the subjects heard the sentences correctly two-thirds of the time. The threshold of audibility was about 10 db. lower. The threshold was deter-

<sup>20</sup> The average decibel loss at 512, 1024, and 2048 c.p.s. multiplied by .8 is considered the percentage loss for understanding speech for that ear.

<sup>21</sup> The significance of this check is not clear, since the intensity of individual words and of sounds within words will have widely different peaks. However, the authors report that the reliability of repeated tests is within a 1 or 2 db. range.

<sup>19</sup> The scoring methods for expressing percentage loss for the understanding of speech were those of Fowler, Sabine, West, Fletcher and the method recommended by the American Medical Association. A complete description of these will be found in her study and elsewhere.

mined after tests of 104 ears on subjects ranging in age from 18 to 34 years whose pure tone thresholds varied from -20 to 15 db.

The experimental observations were made on 86 ears of patients ranging in age from 14 to 80 years and with varying degrees of hearing impairment. The loss for pure tones was determined by Fletcher's method. From their data, Hughson and Thompson devised the following table:

Loss in db. at Threshold Audiometer	Percentage Loss, Speech Reception Test
0 db.	0 %
5 db.	10 %
10 db.	20 %**
15 db.	30 %
20 db.	40 %
25 db.	50 %
30 db.	60 %
35 db.*	65 %
40 db.	67 %
42 db.	80 %
47 db.	90 %
*Approx.	**Approx.

Hughson and Thompson conclude:

The relation between audiometric percentage losses and impairment of speech reception is definite and specific. Correlation of the two factors supplies the actual information which the patient seeks when consulting the otologist, loss for total hearing and loss for speech.

For a given audiometric percentage hearing loss, a relative lowering of speech reception occurs. . . . A 50 percent audiometric loss is equivalent to approximately a 100 per cent loss for speech under conditions described.

Contrasted to the foregoing reports, which find that the ability to understand speech can be predicted from the audiogram, are those of Kinney,<sup>22,23</sup> Goldman,<sup>24</sup> and McFarlan.<sup>25</sup> All three conclude that voice tests provide a more

valid test of the individual's hearing efficiency than the audiometer.

Goldman compared audiograms of 167 men with various types of hearing impairment in military service with results of whisper tests, following standards the War Department adopted for physical examinations during mobilization. Audiograms were scored by taking the average loss at 256, 1024, and 2048 c.p.s. In the voice test, miscellaneous oral material was called in a whispered voice "produced by speaking with the lungs in a complete state of exhalation." A room 20'6"x4'7"x10'3" was used. Results are expressed as a fraction, the numerator of which is the distance in feet at which the words are heard by the normal ear and the denominator the distance in feet at which the words are understood by the subject.

Because the whisper and audiometric tests did not agree, the results were interpreted to mean that there is no significant relationship between perception of speech as determined by the whisper test and the air conduction audiograms. Goldman states he has come to rely almost entirely on the whisper test in judging the fitness of men for military service. He also prefers the tuning fork for diagnostic testing.

Kinney has published three articles, two in 1941 and one in 1943, on the relation between hearing for speech and and the threshold for pure tones.

In 1941 he reported that when the Eustachian tube was inflated in cases of chronic catarrhal deafness and healing cases of otitis media, hearing for speech improved without any change in the audiogram. He investigated this phenomenon after first devising a numbers and word test, given through the microphone attachment to audiometers, and standardized on 200 normal ears.

He found that in 174 cases of otitis

<sup>22</sup> Kinney, Charles E., "Testing Hearing and Evaluation of Results in Mathematical Figures," *West Virginia Medical Journal*, 37 (1941), 448-453.

<sup>23</sup> Kinney, Charles E., "Interpretation of Hearing Tests," *Laryngoscope*, LIII (1943), 223-231.

<sup>24</sup> *Op. cit.*

<sup>25</sup> McFarlan, Douglas, "Speech Hearing and Speech Interpretation Testing," *Archives of Otolaryngology*, 31 (1940), 517-528.

media, "the whispered voice loss is slightly less than the average decibel loss," the discrepancy being about 6 db. A similar difference of about 14 db. was described in about 40 cases of otosclerosis and a 7 to 13 db. difference in favor of the speech perception threshold in 62 cases of nerve losses.

Commenting on these data, Holcombe<sup>26</sup> said: "We have all experienced the finding that after inflation of diseased tubes, the patient experiences a decided improvement in hearing but we are unable to demonstrate this improvement on the audiometer."

Later, in 1943, Kinney studied 14 patients with diminished hearing from miscellaneous causes who were given audiometric tests before and after inflation of the Eustachian tube. In four cases there was no change in the pure tone threshold, but a marked improvement in the ability to understand speech. He also related four additional cases in the practice of other otologists in which there had been improvements in speech understanding but not in the audiogram following surgery.

In investigating further the hearing efficiency for speech in relation to pure tone threshold, he made a study of binaural hearing. In a series of 64 cases he found little improvement in the audiogram when both ears were used, the maximum advantage amounting to 10 db. In a voice test of 22 cases with losses of 30 db. or more, speech was understood at a distance of from 10 to 30 feet more with binaural as opposed to monaural hearing.

Because he believes hearing efficiency must be judged by the voice tests as well as by audiometry, Kinney devised a method of calculating percentage loss of hearing by combining these two types of

data. Hearing tests on 22 cases of healed bilateral otitis media, nine cases of otitis media and seven cases of unilateral nerve deafness—whose test results are scored both by the Kinney and the A.M.A. method—are offered as support for the assertion that the Kinney method gives a truer picture of hearing efficiency, at least in cases of so-called otosclerotic type in young persons and in some cases of unilateral nerve deafness.

McFarlan measured the hearing of 22 subjects both with the pure tone audiometer and with the Western Electric phonograph type audiometer, in which figures are spoken as the hearing stimulus. When the scores of each test were translated into percentages, using Fletcher's method in the case of the pure tone audiogram, the average difference in losses as measured by the two hearing examinations was 22.9, with the pure tone audiogram showing the greater loss. McFarlan infers from this that the pure tone audiogram cannot be used to predict accurately the loss of hearing for speech.

Plummer<sup>27</sup> in 1943 published the results of a study on the relation between high frequency losses and the ability to discriminate between the so-called high frequency speech sounds. Out of a total of 399 subjects given the discrimination test, nine who had high frequency losses had no significant difficulty in discrimination of the high frequency consonants.

The studies on the extent to which the ability to understand speech can be predicted from the audiogram merit considerable discussion and evaluation because of the great practical importance of knowing how well the patient is able to understand speech.

<sup>26</sup> Holcombe's comment is included with Kinney's 1943 report.

<sup>27</sup> Plummer, Robert N., "High Frequency Deafness and the Discrimination of 'High Frequency' Consonants," *Journal of Speech Disorders*, 8 (1943), 373-381.

A fundamental difficulty lies in comparing the results of two different kinds of tests. Guildler, Utley, and Hughson and Thompson all treated their data so that an evaluation of the relationship between the two tests was possible. Translating the results into a common unit of measurement—percentage loss of hearing for speech—made such comparisons convenient for Utley and Hughson and Thompson. Kinney, likewise, apparently established satisfactory conditions for showing a relationship between the audiometer and voice test, but he erred in supposing that because the number of decibels loss was not the same on the pure tone audiogram and the voice tests the two could not be related. It is evident that the two functions might show a high correlation even though the step intervals by which each varied were of different size. McFarlan's conclusions might be acceptable if it were not for the fact that after comparing the pure tone audiometer with the phonograph audiometer, which is not a valid test of speech hearing as pointed out later, he inferred that the pure tone audiometer was not a good measuring instrument because the two did not agree. Goldman likewise because of the lack of reliability in his voice testing made a serious error in equating his results. His assumption that the score of 15/15 measured in feet will correspond to the zero threshold of the audiometer cannot be logically defended. Also his method of occluding the ear not being tested is bound to produce additional inaccuracies.

Before it can be concluded that the ability to hear speech cannot be predicted from the audiogram, the speech understanding test which is used for purposes of comparison must be valid and reliable. This introduces certain experimental problems in voice testing which

were solved with varying degrees of success in the several studies. Specific factors which must be considered are the necessity for (1) controlling the intensity of the voice, (2) maintaining proper acoustic conditions for testing and (3) constructing the voice test so that it actually tests the ability to comprehend speech.

It is a matter of common observation that it is difficult or impossible to eliminate variations in loudness of the spoken or whispered voice. Furthermore, in normal speech the intensity of words and of sounds within a word varies quite widely. In the studies reviewed, McFarlan and Guildler used phonograph records, which would provide uniform stimuli although possibly not typical speech. Kinney and Hughson and Thompson employed the spoken voice over an amplifying system which was provided with a volume indicator, but it is difficult to evaluate the success they had in eliminating variations by this method. Hughson and Thompson did find, however, a high degree of reliability on retests. Utley and Goldman had no objective check on this factor.

The necessity of proper acoustic conditions for voice testing is obvious. Any type of hearing examination should be carried out in a sound proof room, as will be pointed out in the discussion of the reliability of audigrams. Fowler has shown that, as a matter of fact, extraneous noises interfere more with voice tests than with audiometric examinations. Neither Utley, Guildler, McFarlan nor Kinney mention the acoustic treatment of their testing rooms. Hughson and Thompson used a sound proof room, but Goldman did not. The dimensions of any room are important where hearing losses are computed in terms of the



distance at which speech can be heard. As Watson<sup>28</sup> has observed:

An obvious source of error, astonishingly disregarded by many, is the attenuating or modifying effect of the acoustics in the room used for tests. Test rooms which have been used in recently reported studies of whisper and spoken voice are veritable "whispering galleries" in which the whispered voice at 20 feet is almost as loud as at two feet. Varying the distance in an ordinary room cannot be used as an accurate means of measuring the degree of hearing loss.

Goldman's room, which was 20'x6" 4'7"x10'3", seems to fit Watson's description somewhat. Goldman himself says, "... the construction of the room facilitated the transmission of sound as would any other tubular space." This variable does not influence the remainder of the studies since all used headphones worn by the subject, except for that portion of Hughson and Thompson's study which was carried out with a loud speaker in an acoustically treated room.

A final obvious source of error lies in the nature of the stimuli used in the voice and whisper tests. Meaningful words can, of course, often be recognized even if actually they are only incompletely heard. It is known that vowels are, in general, low and middle frequency sounds, while most of the consonants are made up of higher frequency components — although Plummer<sup>29</sup> has suggested that the relationship of this fact to speech perception is not simple.

The use of numbers for test material has received strong criticism from Ewing,<sup>30</sup> Guilder,<sup>31</sup> Neil,<sup>32</sup> and West.<sup>33</sup> Guilder states that "high tone losses often reduce the word test score while the

same individual may give 100 per cent on a numbers test." West, in a study of the Western Electric phonograph audiometer, has pointed out that all of the numbers used could be identified from the vowel sounds alone. Ewing believes that "... only when consonants play an important part in the voice tests are such tests really reliable."

Of all the studies reported, only those of Utley and Plummer appear to have been carefully planned with a full understanding of the phonetic factors involved. The articulation sentences of Hughson and Thompson were meaningful speech and while consonants played an important part, they were not systematically selected. Furthermore, many words might have been recognized from their context. Kinney does not specify clearly the nature of his material. McFarlan, of course, used numbers, while Goldman apparently used numbers to a large extent. It is assumed precautions were taken to eliminate lip reading.

In summarizing the preceding studies, the evidence seems to favor the conclusion that the ability to understand speech can be judged from the audiogram. From the standpoint of a careful control of the variable factors, the studies of Utley, Guilder, and Hughson and Thompson, which support this view, seem to be more acceptable than the reports of Goldman, Kinney, and McFarlan. Plummer's method might well be extended to a larger group of hypacusic subjects.

#### (b) *The recruitment factor.*

Fowler<sup>34</sup> and others have directed attention to what he calls the recruitment factor, a phenomenon which may complicate the interpretation of audiograms in hypacusia arising from nerve lesions. By recruitment is meant that a given in-

<sup>28</sup> Watson, L. A., "Certain Fundamental Principles in Prescribing and Fitting Hearing Aids," *Laryngoscope*, LIV (1944), 531-557.

<sup>29</sup> *Op. cit.*

<sup>30</sup> *Op. cit.*

<sup>31</sup> *Op. cit.*

<sup>32</sup> *Op. cit.*

<sup>33</sup> West, R., "A Critique of the Rationale of Tests of Hearing," *Journal of Speech Disorders*, 5 (1940), 19-24.

<sup>34</sup> Fowler, E. P., "A Simple Method of Measuring Percentage of Capacity for Hearing Speech," *Archives of Otolaryngology*, 36 (1942), 874-890.

crease in intensity will not always result in an equal increase in sensation. On the contrary, after a sound reaches a certain point above the threshold it may be sensed with almost equal loudness in diseased and normal ears. Steinberg and Gardner<sup>35</sup> and Reger<sup>36</sup> among others, have confirmed this phenomenon with pure tones. Fowler writes:

The recruitment of loudness factor is the physiological cause of great variations in hearing for sounds well above threshold. Neurons function according to the all or none law—if they respond at all it is optimum. If the stimulation is sufficiently intense to activate different areas of the basilar membrane there is a recruitment of sensation owing to the activation of the nerve elements and from other usually adjacent areas. Because every fibre is connected to several cells and every cell to several fibres, stimulations well over threshold are sufficient to excite up to the limiting intensity the nerve fibres or nuclei so that the brain will receive a number of nerve impulses per second approaching or even equalling the number received by a normal ear.

He has prepared a table for the correction of audiograms for recruitment in nerve losses. Watson<sup>37</sup> has pointed out the importance of taking the recruitment factor into consideration in fitting hearing aids where there is involvement of the nerve.

Steinberg and Gardner<sup>38</sup> in 1940 published the results of an investigation of the possible effect of recruitment on the perception of speech. Using an amplifying system and a headphone, with non-sense syllables to be copied by the listen-

er as test material, they plotted a curve of correct responses with a normal hearing crew at various levels above the threshold. The same procedure was followed with three cases of hypacusia arising from nerve lesions. The speech perception curves of the deafened subjects were found to be generally similar in form to the normal hearing curve. The authors conclude:

The audiogram is not an accurate indication of hearing impairment for above threshold sounds in cases involving nerve deafness when the loss in loudness sensation is taken as the criterion; but when the capacity to interpret speech sounds, as indicated by the articulation tests, is the criterion, the audiogram does give an approximately correct indication of the hearing impairment.

Fowler comments that Steinberg and Gardner's study does show a noticeable advantage for the subjects with defective hearing up to 40 db. above the threshold, which is in general agreement with his own findings. He feels that Steinberg and Gardner's study was done under artificial conditions (amplifier and headphone) and that the use of single words was not desirable.

Most of the comments on recruitment are based on clinical observations and the experimental and statistical data are very scanty. For this reason, it is impossible to reach any positive conclusion on the relation of the recruitment factor to the interpretation of audiograms. With regard to recruitment for pure tones, there is the interesting possibility that what is called recruitment might prove to be nothing more than an error in measurement resulting from the fact that audiometers are calibrated in terms of intensity ratios (the decibel), which may not correspond to equal units of difference in sensation. Carefully controlled studies of recruitment are needed and the results should prove of great practical value in the fitting of hearing aids. However, on the basis of the data now

<sup>35</sup> Steinberg, J. C., and Gardner, M. B., "The Dependence of Hearing Impairment on Sound Intensity," *Journal of the Acoustical Society of America*, 9 (1937), 11-23.

<sup>36</sup> Reger, S. N., "Difference in Loudness Response of Normal and Hard of Hearing Ears at Intensity Levels Slightly Above Threshold," *Annals of Otology, Rhinology and Laryngology*, 45 (1936), 1029-1039.

<sup>37</sup> *Op. cit.*

<sup>38</sup> Steinberg, J. C., and Gardner, M. B., "On the Auditory Significance of the Term Hearing Loss," *Journal of the Acoustical Society of America*, 11 (1940), 270-277.

available it does not seem possible to judge whether the position of Fowler or that of Steinberg and Gardner is the more acceptable, particularly since the latter study employed only three deafened subjects.

## 2. THE RELIABILITY OF AUDIOGRAMS

To be a satisfactory instrument for testing hearing, the audiometer must, of course, meet the necessary criteria of reliability. The literature on this point may be grouped under the following heads: (1) the reliability of repeated tests; (2) the effect of the use or non-use of sound proof rooms on the apparent threshold and (3) the effect on reliability of the technique of testing.

### (a) Reliability of repeated tests

Two studies have been published in which the degree of uniformity between the results of repeated tests has been observed for air conduction thresholds. Some observations on the reliability of bone conduction measurements also have been made.<sup>39</sup>

Witting and Hughson<sup>40</sup> in 1940 made 297 air conduction audiograms on 17 hospital patients with hearing losses of the conductive type. The average threshold at 1024 c.p.s. was 47 db., with a range from 35 to 75 db. They excluded subjects with chronic conditions likely to cause variations in hearing, patients undergoing therapy, those with extreme tinnitus and those treated with thyroid extract or given cold vaccine.

A sound proof room was used. Testing was done by three operators using

<sup>39</sup> Several studies report that the results of tests using audiometers made by different manufacturers do not agree. However, all these observations apparently were made before the American Medical Association set up uniform calibration as a requirement for acceptable audiometers. Even today, of course, the audiometer should be periodically checked and, if necessary, re-calibrated. Unless this is done they are not reliable.

<sup>40</sup> Witting, E. G., and Hughson, Walter, "Inherent Accuracy of a Series of Repeated Clinical Audiograms," *Laryngoscope*, L (1940), 259-269.

the Western Electric 2A and Sonotone audiometers. Each individual was tested always with the same audiometer and 85 per cent of the curves for each subject were determined by the same operator. Eighty per cent of all audiograms were made by a single operator. The technique of testing was not described. The audiograms were made over an average of 13 months, the range being from two to 28 months. A minimum of 10 audiograms for any given patient was used in figuring the results.

Their data were treated first by calculating the average decibel loss for each patient at each frequency between 128 and 8192 c.p.s. and then computing the standard deviation of the threshold readings for each subject at each frequency. They conclude: "The audiograms of the hard of hearing individuals used in the present investigation exhibit an inherent error of slightly less than 5 db., the error being a function of frequency with 1024 d.v. showing the smallest error."

Witting and Hughson reported that 93.1 per cent of all readings for each individual at each frequency tested showed a variation of no more than  $\pm 5$  db., while 62.1 per cent of the readings were within  $\pm 2.5$  db.

Currier,<sup>41</sup> in connection with a study of the effect of office noises on audiometry, compared 12 air conduction audiograms made in a sound proof room—six on himself and six on a colleague, Ipastato. They used a Western Electric 2A audiometer, checking it several times against a Western Electric 1A and Maico instruments. No other description was given of the testing technique.

He found that 98.8 per cent of the threshold determinations for subject A were within a  $\pm 5$  db. range and 90 per cent were within a range of  $\pm 2.5$  db. An analysis of B's audiograms showed

<sup>41</sup> *Op. cit.*

all threshold readings at all frequencies were within a  $\pm 5$  db. range 95.8 per cent of the time and within a  $\pm 2.5$  db. range in 81.2 per cent of the cases.

The results of these two studies are quite consistent and it is possible that further investigation would serve only to substantiate their conclusions. It might be useful to point out, however, that if one takes the more conservative figures of Witting and Hughson, which must be considered more representative because a larger number of subjects was used, there still is considerable apparent variability which may not be the result of actual changes in the hearing of their patients. In 93.1 per cent of the cases, they reported, the variation was as much as  $\pm 5$  db. This will mean that two consecutive audiograms might theoretically be expected to vary by as much as 10 db. A single set of readings, therefore, is reliable only within limits which the observer should remember when a question of interpretation of the audiogram arises.

The preceding discussion has been concerned with air conduction curves, but the same question of reliability must be raised about measurements of the bone conduction threshold. Some brief comments which might, perhaps, have been considered under the heading of validity have been included here along with the studies on the reliability of bone conduction threshold determinations.

Greenbaum, Kerridge, and Ross<sup>42</sup> in 1939 reported a wide spread of threshold data after an examination of 200 persons with normal hearing. Kobrak<sup>43</sup> believes "there are wide variations on bone conduction in normal people. This function is constantly present and must be reck-

oned with." In 1942, Senturia and Thea<sup>44</sup> wrote that they found bone conduction curves from a single audiometer were consistent, but that such thresholds from different makes of audiometers showed definite discrepancies. Shambaugh<sup>45</sup> states that with a bone conduction receiver the high frequencies of the audiometer are heard increasingly by air and that the bone conduction curve for the upper half of the range is unreliable.

Grossman and Mallery<sup>46</sup> in 1944 published a paper in which they raised a serious question about the reliability of bone conduction measurements. They find that the equipment used in testing bone conduction may be responsible for erroneous thresholds and state further that "no definite values in any measure, decibels or otherwise, can be attributed to the curve arrived at by present methods of audiometry." While Grossman and Mallery believe that such measurements are useful clinically, they warn that their results should be used only as a "rule of thumb" and that the otologist must be familiar with the characteristics of the individual audiometer.

It is interesting that in 1945 the Council on Physical Medicine of the American Medical Association in a report<sup>47</sup> found it desirable to include "A suggested procedure for establishing the normal threshold of hearing for bone conducted sound as measured by a particular audiometer." The method recommended is

<sup>44</sup> *Op. cit.*

<sup>45</sup> Shambaugh, G. E., "Interpretation of Bone Conduction and Other Tests of Hearing," *Annals of Otology, Rhinology and Laryngology*, 45 (1936), 779-797.

<sup>46</sup> Grossman, F. M., and Mallery, C. T., "Physical Characteristics of Some Bone Conduction Oscillators Used With Commercially Available Audiometers," *Archives of Otolaryngology*, 40 (1940), 282-287.

<sup>47</sup> Council on Physical Medicine, American Medical Association, "Minimum Requirements for Acceptable Audiometers," *Journal of the American Medical Association*, 127 (1945), 520-521.

<sup>42</sup> Greenbaum, A., Kerridge, P. M. T., and Ross, E., Jr., "Normal Hearing by Bone Conduction," *Journal of Otology and Laryngology*, 54 (1939), 88.

<sup>43</sup> *Op. cit.*



to establish the normal threshold on five subjects under certain standard conditions.

It seems quite clear from the foregoing studies that bone conduction measurements must be regarded as having a relatively poor degree of reliability and, possibly, validity as well. The need for further and extended research on this aspect of audiometry is evident.

By way of general summary, it seems apparent that air conduction thresholds can be considered reliable within a  $\pm 5$  db. range. The number of studies on this point is extremely limited and a systematic investigation of the reliability of the air conduction threshold measurements probably would contribute essential information now somewhat lacking.

(b) *The effect on reliability of the use or non-use of sound proof rooms*

The presence of extraneous noises while an audiometer test is being given will unquestionably influence the threshold readings because of the well-known masking effect one sound may have on another. It follows that audiograms made in the presence of different noise levels cannot be compared and that any sound, particularly those of intermittent character often present, will be a source of error in the determination of the threshold. Many writers, such as Senturia and Thea and Jones and Knudson have commented on this. The latter write:

Soundproof booths, without which any hearing test is woefully inadequate, are practically unknown. . . . the accuracy of many hearing tests, especially by bone conduction, will depend directly on the extent to which the room is free from noise. If the patient can hear any noise whatever in the room, the test tones will be heard, not until they become inaudible, but until they are masked by the noise in the room. The faint tones would still be heard if it weren't for this noise.

At least two comparative studies have been made of the effect of noise on the

apparent threshold of hearing. Bunch<sup>48</sup> measured four ears with the door of a sound proof booth first closed then open. He reported that opening the door had little effect on the high tones, a conclusion which is probably compatible with generally accepted phenomena of masking. While low tones were affected somewhat by the open door, the greatest change was found in the middle range, particularly at 1024 c.p.s. The apparent raising of the threshold in the presence of masking noises ranged from 20 to 35 db. in some cases. On the matter of making allowances for noises in the test room when interpreting the audiogram, Bunch comments: ". . . to make an adjustment by deducting 10 or 15 db. through the whole range would not be to take these inequalities (i.e. the differing effect of noise on each frequency) into consideration. One would not be able to determine hearing losses if he worked in a room which was not sound-proof."

Currier<sup>49</sup> in 1943 carried out a more extensive investigation of the masking effect of incidental noises on tones near the threshold of hearing. After establishing normal curves for himself and a co-worker in a sound proof room, they tested each other's hearing in 15 rooms used for audiometry in St. Louis. Eleven were in the offices of practicing otologists, one was in a grade school, one in a high school and two in universities. In only five cases was there a pretense of sound proofing, one being a completely sound proof room and the four others relatively so. A sound level meter, which unfortunately did not register below 24 db., was used to determine the noise level in the rooms.

<sup>48</sup> Panel Discussion, "Information Please: Regarding Hearing Aids and Audiometers," *Laryngoscope*, L (1940), 1054-1085.

<sup>49</sup> *Op. cit.*

They found that (1) the approximate noise level in the testing rooms of otologists was less than 24 db., (2) audiograms made there were, nevertheless, 20 per cent less accurate than those made in a sound proof room, (3) in the case of one room, the threshold was raised 20 to 25 db. and (4) noises had the greatest effect on tones below 2048 c.p.s., while hearing for higher tones was relatively unaffected. They conclude:

Unless the hearing test room is sound proofed, the extraneous office noises will significantly decrease the accuracy of routine audiometer tests. . . . A hearing aid test may be given satisfactorily in a reasonably quiet room. Diagnosis of deafness, particularly in children, must be made early. . . . For this purpose a sound proof room environment is necessary.

These studies appear to confirm the commonly recognized fact that hearing tests are reliable only if they are given in rooms which are free from extraneous noise. They also raise a serious question about much of the testing done in schools, as well as in the offices of practicing otologists.

(c) *Effect on reliability of the method of testing*

A variable of prime concern which may seriously influence the accuracy of audiometric examinations is the technique of determining the threshold. In the field of psychological investigation, the critical importance of method in making psycho-physical measurements has long been recognized. It is extremely significant that in the literature on audiometry there is almost no published material on testing technique and an even more limited amount of statistical evidence on the effect differences in testing methods may have on the apparent threshold. Carter<sup>50</sup> and Currier<sup>51</sup> both have called attention to the lack of uniformity in

testing methods. The latter observed: "The technique used for audiometric examinations varies greatly in different offices. As a result, the accuracy of routine tests is significantly decreased and reliable comparisons of records from different offices is prevented."

One matter on which some comment is found is the effect of using a tone of decreasing intensity as compared to a tone of increasing intensity in determining the threshold. The Council on Physical Medicine of the American Medical Association in its 1945 report<sup>52</sup> advised approaching the threshold from both directions and twice as often from below as from above. Many printed instructions favor the practice of using a sound of decreasing intensity.

It is well known in psycho-physics that a threshold approached from below will appear to be consistently higher than one which is determined with stimuli which are decreased in intensity from a point well above the limen. On this point, Kinney<sup>53</sup> in 1943 wrote:

In many cases it was noted that both children and adults seemed to hear a pure tone at a much less intensity as the tone was reduced in intensity than the same person could hear the tone when the intensity was set below their threshold and increased up to the point where they could hear it. . . . In a series of 86 consecutive cases this disparity at the frequency of 1024 amounted to approximately 8 db.

Westlake<sup>54</sup> in 1943 reported a series of observations on discrepancies among audiograms made on the same subjects by different operators. He found the differences in many cases considerable. One very interesting phenomenon was that when the operator watched the intensity dial of the audiometer during the test the thresholds obtained were consistently nearer "normal" than when he looked

<sup>52</sup> *Op. cit.*

<sup>53</sup> *Op. cit.*

<sup>50</sup> Carter, Howard A., "Review of Methods Used for Estimating Percentage Loss of Hearing," *Laryngoscope*, LII (1942), 879-890.

<sup>51</sup> *Op. cit.*

<sup>54</sup> Westlake, Harold, "The Reality of the Zero Reference Line for Pure Tone Testing," *Journal of Speech Disorders*, 8 (1943), 285-288.

elsewhere until the subject signaled that the threshold had been reached. This fact opens up the whole question as to whether there may not often be serious errors in audiometry because of a "personal equation" in the operator.

One study, that of Kobrak, Lindsay, and Perlman,<sup>55</sup> touches on the possible effect of auditory fatigue on the audiogram. They find that a fatiguing tone of 1024 c.p.s. presented for two minutes at 95 db. above the threshold will raise the limen 15 to 25 db. Whether purely sensory fatigue of this type will affect the threshold measurement in practical audiometry is doubtful, however, since they observed that an intermittent stimulus, or one which varied in frequency or intensity, did not produce measurable fatigue.

The whole subject of methodology in psycho-physical measurements is too complex to be discussed here. However, the review of literature on audiometric technique does suggest the wisdom of investigating much more thoroughly the effect which methods of testing may have on the audiogram. Many variables receive no mention, among them such matters as calculating the threshold where several readings are made, the possible effect the instructions given the subject will have on the threshold, the attention factor near the threshold and many others. It is probable that these are matters which must receive attention if audiometric measurements are to be considered precise.

#### SUMMARY

So far as the acuity for pure tones is concerned, there seems to be every reason to suppose that the extended studies directed by Beasley have provided accurate measurements for the average threshold values for air conduction now incorporated in the calibration of all ac-

ceptable audiometers. These intensity levels differ only slightly from those established by Fletcher and Wegl.

The clinical usefulness of the audiometer in testing acuity for pure tones and for aiding in a differential diagnosis between kinds of deafness is not questioned by a majority of the writers commenting on the point. Bone conduction measurements have been strongly criticized because of their possibly low degree of both validity and reliability.

Whether or not the ability to hear speech can be predicted from the audiogram must be regarded as an open question, although the preponderance of evidence seems to favor the view that it can. The studies of Guilder, Utley, and Hughson and Thompson, which support such a conclusion, are more persuasive than those of Goldman, Kinney, and McFarlan because of the techniques used in the speech testing.

Whether, or to what extent, the recruitment of loudness factor must be taken into account when judging the ability to understand speech from the audiograms of persons with nerve losses can hardly be decided from the available evidence. Fowler presents many clinical observations which seem to establish the importance of recruitment phenomena. The study of Steinberg and Gardner, on the other hand, tends to show that the normal ear and one in which there is nerve impairment respond very much alike at equal distances above the threshold, although they are not in total disagreement with Fowler.

The studies of Witting and Hughson and Currier are in general agreement that the audiometer will yield air conduction curves which are reliable within at least a  $\pm 5$  db. range when retests are made under standard conditions. Senturia and Thea and Grossman and Mal-

<sup>55</sup> *Op. cit.*

lery find that bone conduction curves are much less reliable, particularly where different audiometers are used. The Council on Physical Medicine of the American Medical Association took cognizance of this fact in its 1945 report. Currier and others emphasize the critical importance of sound proof rooms for audiometry and show that tests under any other condition are unreliable.

Almost no literature is available on the technique of audiometry and the reader would no doubt be correct if he inferred that this topic has not received the study it deserves. Kinsey has noted that the direction from which the threshold is approached will affect the threshold and Westlake has found that the attitude of the operator is probably a significant variable. Kobrak has shown that auditory fatigue probably does not influence the audiogram.

A number of interesting research problems suggested by the review of the lit-

erature on audiometry might be mentioned. First, a careful study of the effect of certain variables in the testing technique on the apparent threshold seems to be needed. Such information should make it possible to formulate standard methods for audiometry which would lead to more precise measurements. Second, considerable information still is lacking on both the validity and reliability of bone conduction measurements. Third, the whole subject of the relation of pure tone losses to the ability to understand speech needs exploration, with consideration given to reduction in audition arising from different causes such as otosclerosis, various types of nerve deafness and the like. If it is possible to do so, a valid and reliable method should be devised for testing hearing with speech, as a supplement to audiometry. Finally, the phenomena of recruitment need to be given thorough experimental and statistical analysis.



# A QUANTITATIVE STUDY OF EXTENSIONAL MEANING WITH SPECIAL REFERENCE TO STUTTERING

CURTIS E. TUTHILL\*  
*George Washington University*

## 1. INTRODUCTION

THE study here presented is concerned with the general problem of a quantitative approach to certain aspects of the study of meaning and with the specific problem of applying this approach to the study of the 'meaning' of the word "stuttering" as a means of clarifying certain persistent issues with respect to the condition to which it refers. The findings may be related both to other research on stuttering and to the problems of diagnosis and therapy. Inasmuch as it attempts to relate the term "stuttering" with users of the word and with what the word is supposed to stand for, the study may be considered as falling within the field of applied or general semantics. From the point of view of the general theory of signs, it would be regarded as an empirical attempt within the field of semantics to discover what is sometimes termed 'designata' or, more roughly, the 'referents' of the term or sign "stuttering." Stuttering, it is contended, must not be considered as simply an organic disorder with a single physically or biochemically traceable 'cause,' but a disorder which falls, in part, within what has recently been called the field of 'pragmatics,' which deals with the effect of signs upon users of signs.

Considering the general importance of the problem of adequacy of meaning, it becomes important to ascertain how one might determine the degree to which a given statement is verifiable, or to which a given term is operational. In the consideration of this question, one point

seems to be especially clear. For a statement to be verifiable empirically it must refer to observables of some kind. For a term to be operational it must symbolize or indicate some kind of operation. Whether or not it does would appear to be a question to be answered 'by vote,' so to speak. There have been instances where, in the exact sciences, the meaning of a term, or the rule for its use, has been determined beforehand by a type of legislation, or formal convention. The adherence to 'conventional' meanings, or a clear definition in the case of a meaning-to-be, has always been an ideal in the sciences. This ideal, though largely realized in the physical and biological sciences, may hardly be said to be realized in the psychological or social sciences except in a few of the more recent attempts at formalization. The sciences dealing with behavior have a tendency, a large part of the time, to carry over bodily the popular, lay meaning of a term into fields of research with relatively little attempt at specific operational definition. Along with this term, then, come the vagueness, ambiguity, and haziness of meaning which, for popular purposes, was irrelevant, but which, in scientific research leads to inconclusive and misleading results.

For a number of reasons the present study is concerned with the meaning of the word "stuttering." From the point of view of research, the phenomena of 'stuttering' have been related to a number of fairly exact physical, biochemical, or bioelectrical phenomena taking place during 'stuttering.' But 'stuttering,' operationally speaking, was simply that

\*Summary of doctoral dissertation, prepared under the direction of Dr. Wendell Johnson, State University of Iowa.

which was labelled "stuttering" by the experimenter. But to what extent would the experimenter be consistent in labelling stuttering, or how well would he agree with another person also labelling? The implications of such a question are, in part, followed up in this study.

Practically all so-called stutterers are originally diagnosed by laymen, parents, and school teachers for the most part, and one may well wonder what it is they diagnose as stuttering, and how well they would agree with other laymen or with experts in any given case. It appears that the layman's diagnosis is seldom reversed, or even questioned, by any experts who may have occasion to do so. These considerations make it all the more clear that, since diagnosis of stuttering involves operationally the application of the label "stuttering" to phenomena of some sort, it is fundamentally important to ascertain what degree of agreement among users of the label might be expected in their application of it to its possible designata.

From the standpoint of therapy: what does the 'stuttering' mean (emotionally and empirically) to the stutterer? Not only does 'stuttering' (the phenomenon) have an effect upon the stutterer, but "stuttering" and "stutterer" (the emotionally tinged labels) also have their deleterious effects on the stutterer. What then, is included under the word "stuttering" by those persons who are labelled by themselves and others as "stutterers"? Is it the same as what the non-stutterer would include?

Theories as to the 'causes' of stuttering have shown a tendency to shift from those positing a simple, organic, anatomic base to those involving a generalized neurological factor, and more and more to those where factors of suggestion, emotional reaction, evaluation, and other language related functions play a

very important, if not the complete, role. The word "cause" is an unfortunate one in relation to stuttering. Possibly 'complex of causes' would be conducive to a more satisfactory picture of the etiology of the ramified phenomena collectively known as stuttering. This trend toward the attaching of more importance to language and language related functions in interpretations of stuttering appears consistent with the general trend toward increasing scientific interest in language or symbol behavior. It seems reasonable to assume that no complete understanding of *human* behavior and certain aspects of its pathology is possible without taking into account the phenomena of the use of language. This is particularly true in connection with stuttering and especially with the emotionally-toned label "stuttering." The present study is a study of the latter. Concerned with a quantitative investigation of the 'meaning' of the label "stuttering," this study is pertinent to the clinical problems of diagnosis and prognosis, the evaluation of theories of stuttering, and to the more general problem of a scientific approach to the study of meaning.

## II. PROBLEM

In the field of stuttering there are certain linguistic, semantic, pragmatic aspects that have as yet received little consideration except in vague generalities. The present study is an attempt to see to what extent people agree in what they refer to as stuttering when given actual examples. This study is concerned with *extensional* ('ostensive' or 'pointing') rather than *intensional* definitions. Whereas the latter consists of the usual type of definition, i.e., using words, the former makes use of a range of 'objects' to which the label may or may not be applied. The range of 'objects' in this instance consisted of actual speech with certain influent pauses, repetitions, hesi-

tations, etc., to which the word "stuttering" was to be applied.<sup>1</sup>

The present study consists of three parts, which may be considered separate 'Experiments.' Although there was a certain amount of overlap of subjects in the three experiments, the procedure and the analysis of the data were different. The first part (Experiment A), concerns the extensional definition of stuttering by three groups of subjects: stutterers, normal speakers unacquainted with speech pathology, and a group of graduate students and staff members who had served as clinicians in the Iowa Clinic. In giving an extensional definition of stuttering, the subjects listened to a phonograph record of speech, followed on a copy and marked the places where stuttering occurred. Experiment B consisted of essentially the same type of definition using, in part, different subjects and a different type of analysis. One of the groups was made up of recognized experts in the field of speech pathology, from various midwestern university speech clinics. This experiment differed from the first in an attempt to see what amount of agreement there was among

a group of persons trained and actively working in speech pathology.

Experiment C was an attempt to see to what extent the variability and disagreement regarding stuttering would be altered if the subject had visual as well as auditory cues. In this experiment groups of subjects watched a sound film of various persons talking, and indicated by means of signal keys when they heard "stuttering" taking place.

It will be noted that the study is not one of *judging* when 'stuttering' is taking place, but of indicating or labelling certain phenomena which, in the opinion of the subject, would be included in his definition of the word "stuttering." This study then is concerned with the basic problem of the degree of agreement among individuals in their referential or extensional use of the word "stuttering."

### III. PROCEDURE

#### EXPERIMENT A

a. *Speech sample.* In order to have a sample of spoken speech which would be constant from one experimental situation to another, a phonograph record of reading and extemporaneous speech was made. Each side of the record contained somewhat less than 500 words and lasted slightly more than four minutes. Part of the record consisted of 'actual' stuttered reading by two stutterers; another section, of reading in which normal speakers simulated stuttering; and the rest of the record consisted of extemporaneous speech by normal speakers. Each side of the record consisted of five samples of speech in the following order: stutterer, normal speaker simulating stuttering, stutterer, normal speaker simulating stuttering, and normal speaker extemporizing. The passage read was a non-emotional, factual type of material and the extemporaneous speech

<sup>1</sup> In a number of instances various groups of persons at the University of Iowa listening to a speaker who was a stutterer have been asked by the speaker to tally (say, "for the next five minutes") the number of times 'stuttering' occurred. The total number of tallies were averaged for the group and the coefficient of variation ( $100 \times \text{St. Dev.}/\text{Mean}$ ) computed. For a group of 34 in a clinical psychology class the range was from 26 to 125 tallies, with a coefficient of variation of 36.1. For 20 persons in a class in speech hygiene the range of tallies was from 12 to 67, with a coefficient of variation of 41.0. For persons in an extension class the range was from 12 to 120, with a coefficient of variation of 65.5. Five sections of beginning psychology students were asked to tally in a similar fashion. The corresponding results were:

Number	Range	Coefficient of variation
16	9-127	87.8
33	15-149	56.0
22	20-117	76.8
22	20-47	35.9
22	8-89	57.1

was made up of comments regarding the subject matter of the passage read. The content of the speech, as well as the original source of the sound patterns on the phonograph record, was of secondary importance in this study. The speech patterns included all degrees of fluency; there was a fairly wide distribution of deviations from ideal speech fluency, ranging all the way from very slight pauses (due possibly to grammatical form or emphasis) to the 'involuntary' speech blocks of those labelled as 'stutterers.' In a sense, the stimulus to which the subjects responded was merely a set of physically describable acoustical patterns. Throughout the study, the subjects were not told anything about the source of speech on the record, and therefore did not know that part of it was normal, extemporaneous speech. The persons chosen to speak on the record were selected primarily because they were not known to any of the subjects.

b. *Subjects.* The group designated 'St' consisted of 20 persons labelled 'stutterers' by themselves and others. The group designed 'C1' consisted of 20 persons, all of whom were either graduate students or staff members, and all of whom had acted as clinicians. They possessed a high degree of sophistication with regard to speech pathology and the known facts of 'stuttering.' The 'Nr' group consisted of 38 persons, all normal speakers with no previous academic training nor experience in speech pathology. They may be considered as representative of the acquaintance, interest, and naivete of the average or 'normal' person with regard to the phenomena of 'stuttering.'

c. *Experimental procedure.* In Experiments A and B the subjects listened to the phonograph record, following along on a transcript, and marked the places where 'stuttering' occurred. After

copies of the transcript had been distributed, the following directions were given:

You will hear a phonograph record which has been made by having several individuals read one after another. You have before you a copy of what you will hear from the record. Put a line through the letters representing the sounds upon which stuttering occurs. The definition of "stuttering" is entirely up to you. No questions about it will be answered. Make no marks on your paper to indicate anything other than stuttering. All you are to do is to make a mark at each place where stuttering occurs.

A short example of the way the marking was to be done was indicated. Care was taken to see that the directions were clearly understood. All the records of the Nr group and about half of the records of the St group were obtained by group administration; the rest were obtained individually.

To obtain a measure of the reliability or consistency of each subject in Experiment A, the procedure was repeated a week later; the directions were re-read and the subjects asked to repeat their previous performance.

#### EXPERIMENT B

a. *Subjects in Exp group.* A small group of 11 highly selected subjects participated. These, if any, could be called "experts": 1) all had obtained their doctorates in speech pathology; (2) six were fellows and the remaining five associates in the American Speech Correction Association; and 3) seven were directors of speech clinics while the remaining four held the rank of assistant director, associate, or instructor in speech pathology. Some of the data in Experiment B were obtained under a certain time pressure and only the first side of the phonograph record was used; however, all the rest of the data parallels that of the Exp group.

b. *Other groups of subjects.* It was desired to have a group of subjects which represented more or less extreme naivete



with regard to stuttering and an educational level other than that of the previous groups of subjects. The group to be designated Ja consisted of seven persons employed as janitors (not student janitors).

A second small group, to be designated Mo, consisted of six women, all mothers of pre-school children. In the case of both of these groups, the first side of the record only was used, and was repeated immediately after for reliability.

Some of the data gathered in Experiment A were amenable to the type of analysis which would make it directly comparable to that of Experiment B. The data from Experiment A used here included only those for the first side of the phonograph record, and only the first presentation. The St group was broken down into two groups of ten subjects each, such that the mean number of items indicated by each group was approximately the same. The Nr group was broken down into four groups, two groups with ten subjects and two with nine each; the groups were chosen in such a way that the means would be approximately the same and the ranges as near the same size as possible.

#### EXPERIMENT C

This part of the study was designed to serve as a check on the previous parts, to see to what extent the findings in the first two experiments would hold if visual cues were added to the auditory ones.

a. *Sound Film.* A sixteen-millimeter sound film was made of nine extemporaneous speeches; six of the speakers were stutterers and the other three were normal speakers. The speaking situation was probably of more than usual difficulty for all the speakers. The extemporaneous nature of the speech, the glaring battery of floodlights, the novelty and strangeness of talking before a cam-

era—all of these factors combined to make even the 'normal' speakers encounter some difficulty in fluency. The ninth speaker, a stutterer, had such severe and complete blockage that it was impossible to make any analysis whatsoever of the material from his speech sample.

b. *Apparatus for recording responses of subjects.* A polygraph was devised which would record the responses of twelve subjects simultaneously. The subjects held a signal key in their hands while viewing the picture and pressed it when they thought 'stuttering' occurred.

c. *Experimental procedure.* Five complete records were made, the first four using twelve subjects each and the last using six.

For the first record, the twelve subjects (group I) were told that they were to see a film which showed several people talking, one after another; they were asked to press the signal key whenever 'stuttering' occurred, and to hold the key down as long as it occurred. They were then told that at the end of the film, which would last about ten minutes, there would be a short intermission (during the rewinding of the film) when they could talk informally about anything they cared to, with the exception of the speakers in the film. The film was then shown. The second time the film was shown the projected image was blocked and only the sound was heard. After another short intermission for rewinding, the sound, with the film, was presented as it was in the first 'run.' (In summary for group I, the order of runs was: 1, SF; 2, S; and 3, SF.)

The same type of procedure was followed for the other groups of subjects, except that the order of presentation was varied. Group I was made up largely of people who had participated in Experiment A (Nr) while the other

four groups were made up of persons unacquainted with the experiment or the issues involved; all were advanced undergraduates or graduate students. The order of presentation for group II was: 1, SF; 2, SF; and 3, S. The variation in the order was intended to check practice effects during the second showing of the film. For the remaining three groups the first two runs consisted of sound alone: 1, S; 2, S; and 3, SF. This order of presentation corresponded most nearly to the experimental situation for the subjects in Experiment A, with the sound alone being heard twice before the visual cues were added.

#### IV. RESULTS

##### EXPERIMENT A

a. *Quantity of Stuttering.* In one sense the definition of stuttering is the magnitude of the numerical range of items to which a person points when asked for instances of stuttering. If a number of individuals hold the same definition of stuttering they should point to the same number of items as instances of stuttering. Similarly, if one group of persons holds the same definition of stuttering as another group, the means of the two groups should be essentially the same.

Table I summarizes the principal quantitative results for the three groups of subjects. Data for the two days of presentation, a week apart, are given separately, X and Y. These data include the range of the numbers of items checked by the subjects within each specified group, the mean, the standard deviation, and the coefficient of variation. Similar measures are given for the numbers of items checked by the individual subjects on both days (common items, C) and for the total numbers of items (T) checked by the subjects on either or both days.

Considering the total range of items

marked by each group, the wide variability within each group is particularly striking. In every instance the largest value is anywhere from two to five times as great as the smallest value. The least number of items marked by any individual on either day was 31, the most, 155. The wide variability from person to person in the ostensive definition of 'stuttering' is apparent.

TABLE I  
RANGE, MEAN, STANDARD DEVIATION, AND COEFFICIENT OF VARIATION OF ITEMS INDICATED BY EACH GROUP OF SUBJECTS: EXPERIMENT A.

		Clinicians	Stutterers	Normals
X	Range	51-136	31-130	39-118
	Mean	91.6	88.8	71.1
	S. D.	24.7	29.2	15.9
	C. V.	27.0	32.9	22.4
Y	Range	37-130	45-155	35-96
	Mean	82.1	91.9	63.2
	S. D.	31.4	30.5	12.7
	C. V.	38.2	33.2	20.1
C	Range	34-104	20-105	27-64
	Mean	62.7	59.5	47.7
	S. D.	18.8	21.7	8.3
	C. V.	30.0	36.5	17.4
T	Range	54-165	56-194	48-153
	Mean	110.9	121.3	86.6
	S. D.	31.8	37.9	20.6
	C. V.	28.7	31.4	23.8

X—Number of items marked first day; Y—Number of items marked second day; C—Number of items common to X and Y; T—Total number of items marked both days, i.e.,  $C + (X - C) + (Y - C)$ .

It will be seen that in all cases the mean number of items marked by the Nr group was consistently smaller than the corresponding means for the other two groups. Table II, giving the critical ratios of the differences between these means, indicates that the differences be-

TABLE II  
CRITICAL RATIOS OF THE DIFFERENCES OF MEANS GIVEN IN TABLE I.

	C1-St	St-Nr	Nr-C1
X	.322	2.375	3.347
Y	1.003	4.034	2.585
C	.504	2.327	3.381
T	.932	3.806	3.095

tween the Nr group and the other two groups may be considered statistically significant. Of the eight critical ratios comparing the Nr group with the other two groups, five of these are above 3, the usual value accepted for statistical significance. The other three ratios are above 2.3 (97.9 chances in a hundred of being a true difference). The differences between the C1 and the St groups, which are relatively small and not always in the same direction, cannot be considered significant.

The variability, in terms of standard deviation of the distribution, is also con-

correlation. The standard formula for the coefficient of correlation conceived of as percentage of overlapping elements may be written

$$r = \frac{C}{\sqrt{X \times Y}}$$

where X and Y stand for the number of elements in two variables, and C stands for the number of elements common to X and Y. The correlation is therefore the ratio of the common elements to the geometric mean of the two overlapping semi-independent values. Among the three groups, the correlations ranged from .37 for a member of the St group

TABLE III  
RELIABILITY OF SUBJECTS

Coef. Corr.		Clinicians	Stutterers	Normals
C	Mean	.72	.65	.72
	Median	.735	.685	.720
$\sqrt{\frac{C}{XY}}$	Range	.55-.82	.37-.81	.55-.85
C	Mean	.57	.50	.57
T	Median	.575	.520	.555
	Range	.37-.70	.22-.68	.37-.76
S	Mean	.86	.86	.91
L	Median	.870	.885	.885
	Range	.70-.99	.65-.99	.68-1.00

C—Common items checked both days.  
T—Total items checked either or both days.  
X, Y—Items checked on first and second days, respectively.  
S, L—Smaller and larger of X and Y values.

siderably smaller for the Nr group than for the other two groups. Even when the absolute variability is changed to relative variability, by means of the coefficient of variation, the difference still remains.

b. *Reliability of subjects.* The main purpose in obtaining the results for the second day was to measure the reliability or consistency of each subject, to see to what extent he tended to "agree" with himself when asked to repeat his performance. Table III presents measures of this reliability in three forms.

First, the reliability of each subject may be given in terms of a coefficient of

to .85 for a member of the Nr group. The mean correlation for the C1 and the Nr groups was the same, .72; for the St group, .65. The significant fact in regard to this reliability measure is that the clinicians, trained in speech pathology and clinical practice, showed no greater consistency in marking from day to day than persons unacquainted with speech pathology, and the stutterers themselves showed less consistency than either of the other two groups.

Another method of presenting reliability, somewhat simpler, is in terms of the ratio of the C to the T values, the number of items which the subject

checked both days divided by the total number of different items he checked. The mean value for the C1 and Nr groups is again the same, .57, while for the St group the mean is .50. If this method, C/T, be taken as a measure of reliability, all the reliabilities, it will be seen, are relatively low compared to the usual values acceptable for reliability.

A method of presenting reliability which is in wide use in studies having to do with stuttering is that of dividing the larger of the two (X, Y) values into the smaller. Very high values for reliability are usually obtained by this method; for example, at least one subject in the Nr group presumably attained a perfect reliability score (1.00) although the highest reliability in the Nr group by the first method was .85. This method of measuring reliability may be considered spuriously high since it does not take into account the number of overlapping or common elements.

Using all three methods for measuring reliability, no single group was found definitely superior to the others. Using only the first two methods, it would appear that the St group was slightly inferior. In general, individual reliability, from one group to another, did not differ greatly; the similarity between groups appeared more marked than the differences.

c. *Item analysis.* The items indicated as 'stuttering' ranged from severe blocks to mild breaks in fluency in 'normal' speech. In all, 219 different items were indicated as instances of 'stuttering.' The items considered here and throughout the remainder of the discussion of Experiment A include only those which a subject checked both days—the C items. Of the 219 different items, 187 were indicated by the St group, 175 by the C1 group, and 126 by the Nr group.

In Figure 1 the items indicated by each group are arranged in descending order,

according to the number of persons indicating them. To make the graphs for the three groups comparable, the values on both the ordinate and abscissa are expressed as percentages. The horizontal lines of what would correspond to a histogram are indicated; the descending curves join the midpoints of these lines, as in a frequency polygon.

From the figure it is seen that on the Nr curve the abscissa value of 20 is represented by an ordinate value of 80, that is, 20% of the items indicated by the Nr group were indicated by 80% or more of the subjects in that group; those items indicated by 50% or more of the subjects in the Nr group constituted about 40% of all the items indicated by that group. Or, considering the lower part of the curves, it is seen that half of the items indicated by members of any one group were indicated by less than 25% of that group.

It will be seen that, especially between the ordinate values of 25 and 75, the curve for the Nr group lies farthest to the right (that is, has the most area under it) while that for the St group is farthest to the left. 'Ideal' agreement in terms of this figure would be represented by a straight line at the 100% level, or, stated in a different manner, where the whole area under the curve is the maximum. This, of course, is not achieved practically; the area under curves of agreement as represented in the figure is always less than the total area of the square. Hence the ratio of the attained agreement to the theoretically possible, or ideal, agreement might serve as a comparative measure. This value has been described by Johnson<sup>2</sup>

<sup>2</sup> Johnson, Wendell, "Language and Speech Hygiene, an Application of General Semantics," *Gen. Sem. Monog.* No. 1 (1939), pp. v + 54. For a more recent and detailed statement see Johnson, W., *People in Quandaries: The Semantics of Personal Adjustments* (New York, 1946), Appendix.



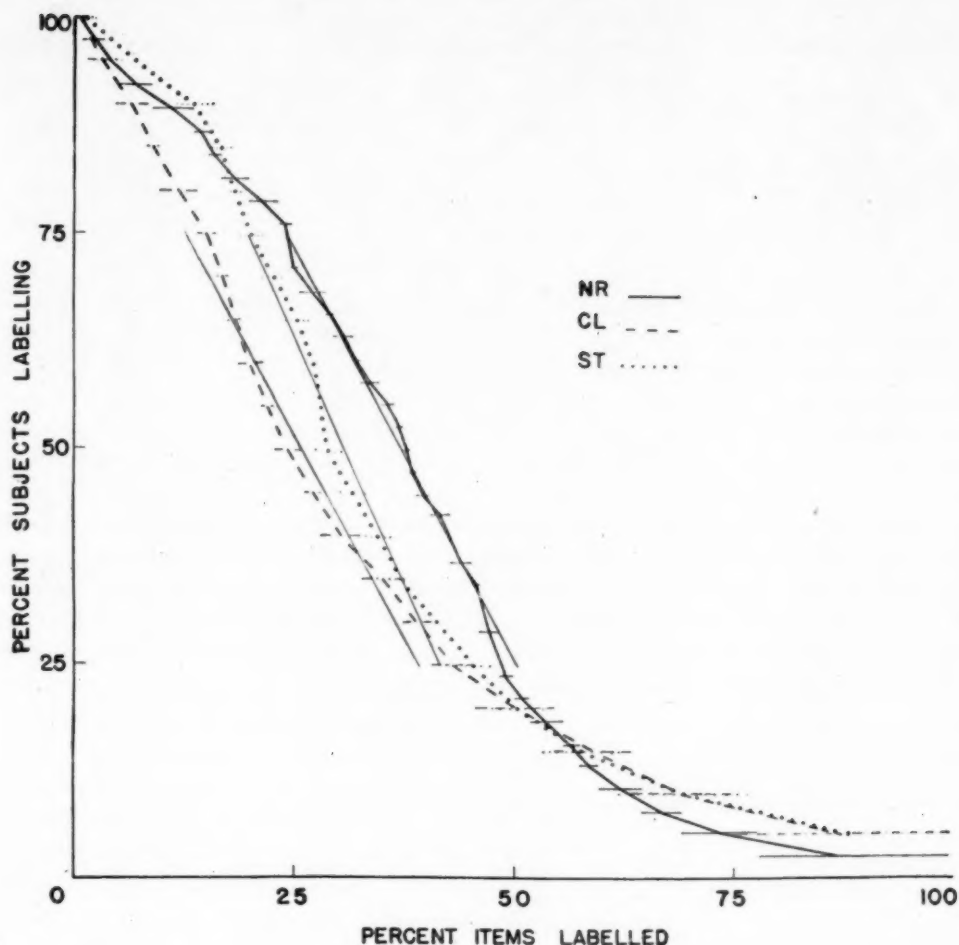


FIGURE 1.—DISTRIBUTION OF ITEMS IN TERMS OF PERCENT OF SUBJECTS LABELLING AND PERCENT OF ITEMS LABELLED.

and termed the Extensional Agreement Index, or EAI. It will be seen from the figure that the area under the curve for the Nr group is the largest, and that for the St group the smallest. The EAI's are summarized in Table IV. The area under the Nr curve includes .377 of the total possible area, that for the Cl curve includes .357 of the total possible area, and that for the St curve includes .319. Table V, giving the critical ratios of the differences, indicates that the EAI for the St group is significantly lower than that for either of the other two groups. (The significance of the difference be-

tween EAI's is obtained by the usual formula for the significance of the difference between two ratios.) In short, it may be said that the members of the St group did not agree among themselves as well as did the subjects in the other two groups.

However, conceiving of agreement in this way tends to present a picture which may be altered very materially by the presence or absence of items at the extreme right of the curve, that is, those items indicated by only a small percentage of the group or possibly by only one person. One 'individualist' who

TABLE IV  
SUMMARY OF EXTENSIONAL AGREEMENT INDICES.

	Clinicians	Stutterers	Normals
a. Total range of items included	.357	.319	.377
b. Items included with agreement above 25%	.681	.618	.698
c. Items included with agreement above 50%	.851	.792	.790
d. Items included with agreement above 75%	.924	.885	.876
e. Items included with agreement 25% or below	.108	.118	.076
f. Items included with agreement between 25% and 75%	.494	.480	.514

tends to label a great number of items not labelled by other members of the group may alter the value of the EAI in such a way that it presents a spurious picture of the *group agreement*. Table IV includes five other types of EAI's in

TABLE V  
CRITICAL RATIOS OF THE DIFFERENCES BETWEEN  
EAI'S OF TABLE IV

	C1-St	St-Nr	Nr-C1
a.	3.24	5.63	1.87
b.	3.71	5.00	1.13
c.	3.28	.12	4.07
d.	2.29	.53	3.43
e.	1.00	4.66	3.20
f.	.61	1.55	.91

which the 'total possible agreement' is not determined by the complete range of items pointed to by *any one* person. If only those items which were indicated by more than 25% of the members of each group are used, the biasing factor of a single individual is eliminated and a somewhat better picture of group agreement is obtained. For the Nr group the value is .698, for the C1 group, .681, and for the St group, .618.

If, however, only those items indicated by more than 50% are considered, the group order of agreement is somewhat altered. The order becomes: C1, .851; St, .792; and Nr, .790. The same order

holds if only those items agreed upon by more than 75% of the group are considered: C1, .924; St, .885; and Nr, .876. The differences between the last two groups may not be considered significant.

Again, it is possible to express the agreement in terms of that range of the items between 25% and 75% on the ordinate. The items within this range are those where the group exhibits the greatest disagreement, that is, where it is split up most evenly. The EAI's within this region are: Nr, .514; C1, .494; and St, .480.

The remaining region in the range of items includes those items indicated by 25% or less of the group. This region would include the 'tail' of the curves in the figure (about 50% of the items). Here the order of size of the EAI's of the three groups is practically reversed: St, .118; C1, .108; and Nr, .076.

The main difference between the Nr group and the other two groups was the relatively small number of items upon which less than 75% of the group agreed (St, 161; C1, 142; and Nr, 95). In contrast, the number of items upon which 75% or more of each group agreed was similar for the three groups (St, 26; C1, 33; and Nr, 31). The number of

items for each group on which there was less than 25% agreement varied similarly (St, 111; C1, 99; and Nr, 65). The ratios of the number of items on which less than 25% of the group agreed to the number on which 75% or more agreed were as follows: St, 4.27; C1, 3.00; and Nr, 2.10.

The preceding comparisons are based on the items indicated within each group; the Pearson product-moment correlations of the number of individuals within each group marking each of the 219 items affords a measure of the degree of agreement from group to group. The correlation between the C1 and St groups is  $.995 \pm .001$ ; between the St and Nr groups,  $.908 \pm .012$ ; and between the Nr and C1 groups,  $.921 \pm .010$ . If all those items on which less than 25% of either group agreed are omitted, the correlations are still high: C1-St,  $.862 \pm .031$ ; St-Nr,  $.720 \pm .064$ ; and Nr-C1,  $.742 \pm .059$ . These correlations indicate that the three groups tended to agree on the order of the items.

Of the 187 items indicated by the St group, 50 or 26.7% were agreed upon by more than 25% but less than 75% of the group; of the 175 indicated by the C1 group, 43 or 24.6% fell in this region of agreement; and of the 126 items indicated by the Nr group, 30 or 23.8% fell in this region. The size of the region of 25% or more but less than 75% agreement indicates the sharpness with which group agreement is decreasing. (In terms of group agreement, the region below 25% agreement may be omitted since it is apparently loaded with erratic and "individualist" factors.) The sharpness of the decline of group agreement in the central region is shown graphically by the slope for that portion of the curve. In the figure, a straight line least-squares fitting has been made to that portion of each of the three curves. The

resulting slopes (with negative signs omitted) of the fitted straight lines are: St, 1.87; C1, 1.90; and Nr, 2.27, indicating greatest group agreement for the Nr group and least for the St group.

d. *Paragraph Analysis.* The 219 items indicated as 'stuttering' occurred on all parts of the phonograph record. Paragraphs 1, 3, 6, and 8 (reading by stutterers) accounted for 95 of them; paragraphs 2, 4, 7, and 9 (normal speakers simulating stuttering) accounted for 79; and paragraphs 5 and 10 (extemporaneous speech by normal speakers) accounted for the remaining 45 items indicated as 'stuttering.' Of the 219 total items indicated, only 39 of these were agreed upon by 75% or more of any one group. Of these, 22 occurred in the four paragraphs of reading by stutterers, 17 in the four paragraphs of normal speakers simulating stuttering, and none in the extemporaneous speech. In all, there were only four items which had greater than 90% agreement by all three groups of subjects.

For the extemporaneous paragraphs, 60.0% of the St group, 50.0% of the C1 group, and 36.8% of the Nr group marked at least one item as 'stuttering.' These were items on which the subject 'agreed' with himself on the two days (C items).

If the T items are considered, those items which subjects indicated one day or the other, 90.0% of the St group, 85.0% of the C1 group and 76.3% of the Nr group marked at least one item, in the extemporaneous speech, the maximum numbers being 44 items marked by a member of the St group and 38 items for members of both the C1 and Nr groups. Considering only those subjects who marked items (T) in extemporaneous speech, the mean number of items indicated by the Nr group was 6.3, and the median, 4.5; the mean num-

ber indicated by the C<sub>1</sub> group was 23.3, and the median, 10; and the mean number indicated by the St group was 25.8, and the median, 16.5. Or, if the number of items indicated in extemporaneous speech is taken in terms of the percentage of the total number of items indicated, the mean percentage for the Nr group is 6.0; for the C<sub>1</sub> group, 10.2; and for the St group, 12.1%. If only those items on which the subject 'agreed' with himself both days (C items) are considered, there still are a noticeably large number of items indicated, the mean number for those indicating being: Nr, 2.4; C<sub>1</sub>, 6.5; and St, 9.6, with corresponding medians of 2, 4, and 9, respectively. In terms of the percentage of extemporaneous items to the total number of items, the mean percentage for the Nr group is 4.4%, for the C<sub>1</sub> group, 7.6%, and for the St group, 13.1%. It will be recalled that the subjects were not instructed as to the type or source of speech on the record, merely being asked to indicate where "stuttering" occurred.

#### EXPERIMENT B

Since the groups of subjects in this part of the study were relatively small, it was possible to compare each subject with every other subject in a given group, and also to compare every subject in one group with every subject in certain other groups. The method of correlation conceived of as percentage of overlapping factors was used throughout. For convenience in tabulating the mean, median, and range, values are multiplied by 100.

The results of the marking of each of the 11 persons in the Exp group were compared with those of every other person in the group. Fifty-five correlations were obtained. The average of the correlations for each person was then obtained (i.e., subject No. 1 with No. 2, No. 1 with No. 3 . . . No. 1 with No. 11).

The same procedure was then followed to obtain the mean of the correlations where the second person was involved: No. 2 with No. 1, No. 2 with No. 3, No. 2 with No. 4 . . . No. 2 with No. 11). An average correlation (or 'inter-correlation') was obtained for each of the 11 persons in the group. For the Exp group, these averages were as follows: No. 1, 69.1; No. 2, 70.8; No. 3, 68.6; No. 4, 70.2; No. 5, 70.8; No. 6, 69.4; No. 7, 69.7; No. 8, 76.4; No. 9, 75.7; No. 10, 73.2; and No. 11, 67.8. The mean of these 11 values, that is, the mean of the average individual inter-correlations, was 71.7.

Table VI summarizes the means, medians, and ranges of the inter-correlations in Experiment B. The mean, median, and ranges of the number of items indicated by each group are also given.

It will be noted that while the Exp group indicated on the average about 55 items, the two St sub-groups indicated between 50 and 51, the four Nr sub-groups and the Mo group indicated between 38 and 39, and the Ja group indicated 17. The results for the Ja group may in part be explained on the grounds of the subjects' being unacquainted with experimental procedure and the handling of materials.

The significant point with regard to the mean inter-correlations is that the average for the Exp group falls within the narrow range of the means for the Nr sub-groups and the Mo group, 70 to 72 (Nr<sub>1</sub> being slightly higher, 75.1). The central value for the St sub-groups appears to be between 62 and 63 (the mean for the first sub-group is 52, but the median is close to the mean and median of the second sub-group, 62. This may be accounted for on the basis of the larger range, and certain low items which weighted the mean.)

Reliability measures are not indicated



TABLE VI  
INTER-CORRELATIONS IN EXPERIMENT B.

Group	N	Number of Items Marked			Inter-correlations ( $r \times 100$ )		
		Mean	Median	Range	Mean*	Median	Range
Exp	11	55.6	55	34-89	71.7	71	56-86
Nr <sub>1</sub>	10	38.9	39.5	24-52	75.1	73	54-92
Nr <sub>2</sub>	10	38.0	39	22-51	69.6	69	53-89
Nr <sub>3</sub>	9	39.6	40	28-51	72.8	72	66-84
Nr <sub>4</sub>	9	39.0	39	27-53	70.5	71.5	53-83
St <sub>1</sub>	10	50.3	51.5	16-90	52.0	62	24-81
St <sub>2</sub>	10	51.2	52	27-71	63.7	63	44-84
Ja	7	17.1	15	11-29	50.7	52	26-68
Mo	6	38.0	38.5	27-47	72.5	73	64-83

Group	Inter-correlations ( $r \times 100$ )		
	Mean**	Median	Range
Exp-Nr <sub>3</sub>	70.7	72	54-82
Exp-St <sub>2</sub>	67.1	67	51-83
Exp-Ja	46.6	47	31-71
Exp-Mo	66.3	67	51-87

\*Number of correlations =  $.5N(N-1)$  or  ${}_nC_2$ .

\*\*Number of correlations =  $N_1 \times N_2$ .

in the table, since corresponding measures could not be obtained for all groups. Comparable reliability measures were obtained for the Ja, Mo and four members of the Exp group. The mean reliability for the Ja group was 64.7, for the Mo group, 82.8, and for part of the Exp group, 82.6.

The lower part of Table VI presents the mean, median, and range of correlations between all the members of the Exp group and all the members of the Nr<sub>3</sub> group, the Mo group, the St<sub>2</sub> group, and the Ja group. The Nr<sub>3</sub> sub-group and the St<sub>2</sub> sub-group were chosen because their means were closer to the Exp group mean than the means for the other sub-groups. On the basis of the mean inter-correlation between the members of the Exp group and the Nr<sub>3</sub> group, 70.7, it might be said that, statistically, the two were drawn from the same population. The corresponding values for the Mo and St<sub>2</sub> groups are 66.3 and 67.1, respectively. The value for the Ja group,

46.6, would be expected to be low because of the very small number of items indicated.

On the basis of this analysis, it can hardly be said that the experts showed higher 'agreement' among themselves than that shown by normal speakers unacquainted with speech pathology.

#### EXPERIMENT C

This experiment was designed chiefly to ascertain to what extent disagreement was present when the subjects defining "stuttering" could see as well as hear the speakers.

Table VII summarizes the frequency with which items were marked. For the first group of subjects it will be seen that 71 different items were indicated as instances of stuttering. For group I, the first run included both sound and film (SF) and a total of 48 items were indicated. On the second run, sound alone (S) 51 items were indicated. There was no marked difference in the general pattern of agreement in these two runs.

TABLE VII  
FREQUENCY OF ITEMS, ACCORDING TO NUMBER OF PEOPLE AGREEING

Group	Run	Number of Persons Agreeing												Total/Run	Total for 3 Runs
		12	11	10	9	8	7	6	5	4	3	2	1		
I	SF	1	0	1	1	6	4	8	1	3	1	1	6	48	71
	S	2	2	0	3	3	7	1	4	0	2	2	12	51	
	SF	3	0	2	7	4	3	5	3	4	4	3	9	62	
II	SF	1	0	0	3	2	7	4	4	3	6	7	13	61	87
	SF	2	0	0	2	7	3	8	4	8	8	8	9	78	
	S	3	0	0	1	1	5	3	5	8	8	5	12	65	
III	S	1	0	0	0	0	0	1	3	2	4	7	8	50	65
	S	2	0	1	1	1	1	7	1	5	2	8	6	53	
	SF	3	0	0	3	0	2	4	5	4	1	2	14	46	
IV	S	1	1	0	2	2	2	2	4	5	4	6	6	55	82
	S	2	0	0	4	0	4	2	4	5	5	13	11	69	
	SF	3	0	1	5	5	0	4	6	1	6	7	14	72	
V	S	1						4	5	5	8	14	22	58	69
	S	2						1	9	5	6	10	18	49	
	SF	3						6	6	6	2	5	24	49	

For the third run (SF) more items were indicated (62) and there was slightly higher agreement on those items indicated.

With group II the first two runs included the film (SF). The second time the film was shown there was no general increase in agreement but an increase in the total number of items indicated, enlarging the number of items on which there was low-level agreement. The third time, with the sound alone, there was a slight decrease in agreement on those items where the agreement had been relatively high on the first two runs.

The remaining three groups were first given the sound alone. Sound was repeated in the second run to see if practice or adaptation effects were present, and the film was shown for the third run. The results for group III indicate that there was a relatively large amount of practice effect between the first and second runs, and that, when the film was added in the third run, there was no increase in agreement. The results for group IV show a very slight increase in agreement for the first two runs. There was also a very slight increase when the

film was added in the third run. The results for group V reveal the same tendency as that shown by the previous group. There was no striking difference between the first and second runs, and there was no marked increase in agreement when the film was added to the sound in the third run.

The total number of different items indicated on the film by all subjects was 131. Of the eight scenes on the film, the three sections of normal speakers talking extemporaneously accounted for 34 of the items indicated. This is particularly striking considering the fact that there were visual cues.

#### V. SUMMARY OF RESULTS

This study was an attempt to see to what extent people agree when they label various speech phenomena as "stuttering." It had to do with the extensional definition of stuttering by normal speakers, stutterers, clinicians, and experts in the field of speech pathology.

1. Normal speakers, unacquainted with speech pathology, indicate a significantly smaller number of items as instances of stuttering than do stutterers or clinicians.

2. Normal speakers have less variability among themselves than do clinicians or stutterers in indicating items of stuttering.

3. Reliability of marking items, measured by three methods, was approximately equivalent for the normal speakers, clinicians, and stutterers; no group was markedly superior.

4. Of the total number of different items indicated, half were indicated by less than 25% of the group.

5. In terms of the total number of items indicated, the normal speakers agreed best, the clinicians next best, and the stutterers worst (EAI).

6. The numbers of different items upon which each group agreed more than 75% were approximately the same; the number of items on which there was less agreement was much smaller for the normal speakers than for the other two groups.

7. In terms of the slope of the curve in the middle region (Fig. 1), the normal speakers represent the highest agreement and the stutterers the least agreement.

8. Of 219 different items indicated as "stuttering" 45 occurred in the extemporaneous speech of normal speakers.

9. Of 219 different items indicated, only 39 were agreed upon by 75% or more of any one group; only 4 had greater than 90% agreement by all three groups.

10. Over 76% of the subjects in each group indicated at least one item in the extemporaneous speech of normal speakers as "stuttering."

11. The agreement among a number of recognized experts in speech pathology was no greater than that among a number of persons unacquainted with the field; stutterers agreed less well among themselves than did normal speakers or experts.

12. The addition of visual to audi-

tory cues did not tend to increase the agreement materially, when practice and adaptation effects were taken into account.

The findings in general demonstrated the vagueness of word-fact relations existing between the word "stuttering" and the auditory and visual phenomena to which it may be applied.

## VI. DISCUSSION OF RESULTS

The preceding results indicate, in a number of different ways, that "stuttering" is not a single-valued word with its extension sharply differentiated from that of "non-stuttering." There is wide variability in the phenomena to which people apply the word, ranging all the way from noticeably severe breaks in rhythm to very minor hesitations. When normal *extemporaneous* speech is embedded in other speech which has more marked fluency ('stuttering') the pauses and hesitations of the 'normal' speaker will usually be taken for "stuttering," or at least so labelled.

Greater acquaintance with stuttering (in a clinical way) does not necessarily bring about greater unanimity of agreement. Persons who have worked with stutterers, or stutterers themselves, have greater variability in the number of items which they indicate as instances of stuttering than do naive persons unacquainted with speech pathology.

Persons acquainted with stuttering indicate more items as instances of stuttering, but even though the average is higher, the number of items on which there is high agreement is about the same as for other persons. We might say more items were indicated, but these items added were items where there was very low agreement; the clinicians and stutterers will not agree on more items—they will merely indicate more.

Even with a group of experts in the

field of speech pathology, the agreement is no higher than among persons unacquainted with the field; and with stutterers the agreement is somewhat lower.

The results of an experiment of this type have to do, in significant part, with the disagreement occurring at the borderline between 'stuttering' and 'non-stuttering.' On very severe stuttering there is little disagreement as to whether stuttering is taking place, even though there may be considerable disagreement as to *when* it is taking place. This study is not concerned primarily with the most marked and severe instances of stuttering. The disagreement that had been indicated has to do largely with those blocks and hesitations more or less similar in many instances to 'normal' pauses, hesitations, repetitions, etc. This borderline, however, may be of great importance in the problem of stuttering. Every term, of course, has more or less a 'vagueness fringe' which may be of semantic interest. The pragmatic aspects of the term "stuttering," however, make this borderline, or vagueness fringe, of special significance.

The measurement of 'agreement' in this study may not be a complete measure of agreement with regard to the totality of phenomena subsumed under the term "stuttering," that is, with regard to the total complex of speech items considered 'abnormal' in the speech of the one to two per cent of the population who call themselves 'stutterers.'

A complete definition of stuttering would probably be so difficult as to be technically impossible at the present time and would involve a complete statistical sample of all types of stuttering. The definition would require proper proportions within the sample in terms of (1) age, (2) sex, (3) severity of blocks, (4) types of blocks (clonic, tonic, etc.) and probably a number of other

significant criteria for 'cleavage' within the sample. If it were possible to obtain such a sample, one could then state directly the absolute amount of disagreement with respect to the phenomena of stuttering, as well as the relative disagreement among various sub-groups of the labelling persons. The results of the present study have to do chiefly with the latter factor. With other samples of speech containing stuttering the *absolute* amount of disagreement would probably differ from that in this study, but the relative disagreement among the various types of subjects would probably remain (i.e., the topographical order would remain the same).

By way of over-simplification, we might say that the present study demonstrates that normal speakers who are not particularly interested in stuttering do not listen as keenly to the speech of stutterers as do the stutterers themselves or persons actively working with stutterers in the clinical situation. Normal speakers do not hear as much, nor are they so sensitive to the finer breaks in fluency.

It is a truism that breaks in fluency experienced by the stutterer himself usually have more effect on the stutterer than upon the hearer. Clinically, it has been demonstrated that stutterers react to more in their speech than most of their hearers notice. Stutterers often express great surprise and sometimes downright disbelief when a normal speaker assures them that certain blocks which the stutterer 'knows' were present were not noticed. The stutterer apparently operates on the assumption that he should notice all influent speech—that is, he should be keenly aware of any deviation from perfect fluent speech. ('Perfect' fluency and 'normal' fluency are often confused.) This study has borne out the fact that stutterers hear as stuttering breaks in fluency which the normal speaker who is not a speech path-



ologist would not consider stuttering.

To clarify the point: the stutterers marked a certain number of items as instances of 'stuttering'; the normal speakers indicated considerably less. It might be asked "But how many stutterings were actually there? Which group was nearest to being right?" This question, as seen on closer analysis, is meaningless. In the truest sense of the word, 'stuttering' is that which is labelled "stuttering." Electroencephalograms, electromyograms, cardiograms, or acoustical analysis will not give a clear-cut picture of the time when 'stuttering' is taking place. Hence, an operational definition of stuttering must take into account the semantical and pragmatic factors involved; (i.e., whether the person labels himself a 'stutterer' and what effect such labelling has on the person).

From the standpoint of therapy, the findings in this study tend to indicate, to some extent, that the 'stutterer' need not consider himself as sharply differentiated from the 'normal' speaker, especially if the larger part of his speech breaks are of the 'borderline' type. Certainly from the standpoint of what the average person hears, he is not sharply 'marked off' from the average speaker. To another stutterer breaks may be considered 'pathological'; but to the average, normal, listener, they may pass unnoticed. These points have obvious implications for therapy.

As far as the accuracy of diagnosis is concerned, it is well to remember that over 50% of the items indicated in Experiment A were considered as stuttering by less than 25% of any group of subjects. And over three-fourths of the subjects indicated some items in the two minutes of extemporaneous ('normal') speech as 'stuttering.' How accurate, then, is the 'diagnosis' or 'labelling' of

persons as "stutterers," as having "stuttering" in their speech? When serious consideration is given to the 'diagnosogenic' nature of stuttering the present findings tend to suggest extreme caution in labelling.<sup>3</sup> Young 'stutterers' are found to be doing a great many of the same things the normal speaker does. This suggests that stuttering is, at least in part, semantogenic. This study serves as a quantitative measure of the degree to which inaccuracy may be present in diagnosis.

Disagreement with regard to the etiology of stuttering may be, in part, a semantic (i.e., word-fact relating) disagreement. Perhaps some arguments arise because reference is being made to different facts; the 'facts' of stuttering are not clear-cut. The exaggerated phenomena of stuttering, on the one hand, may not be at all comparable to the subtle, border-line phenomena on the other.

From the standpoint of research, the present findings tend to throw into grave question the *exactitude* or *specificity* of the phenomena of 'stuttering.' 'Stuttering,' in the past, has been roughly defined in research as 'those items which the experimenter indicated.' The three methods of determining 'reliability of checking responses' presented in this study indicate that the method used in the past has probably yielded a picture of spuriously high reliability. The variability in the number of items checked by different subjects, even those well trained in speech pathology, would tend to indicate that the 'absolute' number of stutterings presented in past studies would probably vary considerably from experimenter to experimenter. This study would tend to indicate that the past findings in research studies may not be considered in too sharp detail; the picture of stuttering presented by differ-

<sup>3</sup> Johnson, W., *op. cit.*

ent studies must be considered, as it were, through a "diffusion filter" with fine, sharp details eliminated; only the bold outline remains—the fine differences are obscured.

The present study has demonstrated the use of a number of methods for the measurement of agreement in word-fact relating behavior. Other terms, where

the extensional meanings might be "crucial" to certain issues in clinical and educational practice, may be studied in a similar way. As this study has shown, the social and psychological implications of word meanings may be approached experimentally and given exact quantitative treatment through the use of various objective techniques.

## ABSTRACTS OF THESES IN THE FIELD OF SPEECH AND DRAMA-1\*

EDITED BY CLYDE W. DOW  
Michigan State College

### I. PUBLIC ADDRESS

Brooks, George Edward, "A Rhetorical Comparison of Woodrow Wilson and Franklin D. Roosevelt, Based Upon Aristotelian Criteria," Ph.D. Thesis, The Ohio State University, 1945.

The problem investigated was that of the rhetorical activities engaged in by two men who lived during similar historical events, who were faced with situations that called for rhetorical efforts, and who could, therefore, be examined on the basis of Aristotelian criteria.

The study was divided into two parts: (1) the formulation of a code of Aristotelian criteria and (2) the comparison of Wilson and Roosevelt with the code and with each other. The code was set up by an examination and synthesis of all the germane principles to be found in Aristotle's *Rhetoric*, *Politics*, *Ethics*, *Prior Analytics*, *Posterior Analytics*, *Topica*, and *Poetics*. The focus was upon the deliberative speeches, particularly those dealing with the four Aristotelian forms of ways and means; war and peace; national defense; and imports, exports, and legislation. The code included the Aristotelian theory of the arrangement of the parts of a speech and a consideration of the roles of *ethos*, *pathos*, and *logos*. Thus, through an examination of the pertinent works of Aristotle, it was possible to formulate a comprehensive code of Aristotelian criteria that comprised not only his views upon rhetoric but also those other principles which he considered necessary to any citizen-member of the community concerned with the welfare of the state.

The second part of the study consisted of an application, item by item, of the code of Aristotelian criteria to a critical comparison of Wilson and Roosevelt as orators. In the application of the code to a rhetorical comparison of Wilson and Roosevelt, the following conclusions appeared to be justified: a comparison of them as speakers showed a similarity of their family backgrounds, their formal education, their rhe-

torical education, their political education, theoretical and practical, and their political philosophies based upon Aristotelian principles. They agreed with Aristotle and with each other on the fundamentals of the philosophy of the function of the state and of the individual's relationship to it.

In their personal characteristics as actual speakers, Wilson's intellectuality and Roosevelt's personality were predominant. They had in common an inordinate share of human courage. Wilson was a discriminating type of speaker, Roosevelt a popular one. With respect to the second factor, the hearer, both men spoke to the common people on many, many occasions. They faced thousands and spoke to millions in all walks of life all over the world. Their speaking occasions and situations were almost identical on sequential cycles of time. They both participated in peacetime, pre-wartime, and wartime rhetorical situations.

The third factor in a speaking situation, the speech, showed, upon an examination of a large number of their efforts, that they often made similar speeches on comparable or parallel occasions. For a specific comparison of their speeches, their first inaugural address as President was chosen, primarily because of the identity of circumstances attending the presentation of both speeches. A minute examination showed the speeches to compare favorably on the basis of the standard forms of proof: *ethos*, *pathos*, and *logos*. Their *topoi* included the four standard commonplaces; the sources of their enthymemes were definitely Aristotelian. The arrangements of their speeches were in accordance with Aristotelian precepts. Their styles were quite satisfactory, Wilson's being brilliant at times. The delivery of their speeches was adequate and acceptable, free from extraneous devices or accessories.

Wilson's and Roosevelt's speeches, as such, were so nearly alike in ideologies on so many occasions that it would be an easy matter to mistake one for the other in a test of simply reading the speech.

Thus it might be said that, allowing for the individual differences between man and man, Wilson and Roosevelt were quite comparable,

\*The assistance of many persons in the field, particularly those directors of graduate work in speech and drama who have cooperated in providing the abstracts here reported, has made possible this section, authorized by the Speech Association at its 1945 meeting.

rhetorically. One was a statesman, the other a political expedientist; one was primarily intellectual, the other personal; one was a champion of principles, the other a leader of men; one died of a broken heart born of learning the strength of the stream by swimming against its current, the other on the high tide of popular approval.

Abstracted by EARL W. WILEY, *Ohio State University*

Henderlinder, Clair R., "An Evaluation of the Persuasive Techniques of Woodrow Wilson in His League of Nations Speeches, September 4-25, 1919," Ph.D. Thesis, State University of Iowa, 1945.

This study evaluates the speaking technique of Woodrow Wilson in thirty-three speeches on behalf of the League of Nations delivered on his Western Tour, September 4-25, 1919. It considers (1) the orator's background and speech training, (2) the occasion, audiences, sources and nature of assumptions and lines of argument, proofs and refutation, (3) speech composition, involving preparation, organization and use of language, and (4) delivery.

[See this issue, *SPEECH MONOGRAPHS*, XIII (1946), 23-34 for study on this subject.]

Abstracted by CLAIR R. HENDERLINDER, *Western Reserve University*

Hochmuth, Marie Kathryn, "William Ellery Channing, D.D., "A Study in Public Address," Ph.D. Thesis, University of Wisconsin, 1945.

The writer presents an analysis of Channing's principles and practices of persuasion.

Letters and papers, Rhode Island Historical Society; sermons and letters, Widener Library; letters, sermons, and pamphlets, American Unitarian Association Historical Society Library; sermons, letters, and notes, Meadville Theological Seminary Library; newspapers and magazines, Boston Public Library, Wisconsin Historical Society Library, and the Library of the University of Illinois, were used as sources.

Attention is first given to Channing's ideas, the background from which they emerge, and his aims and objects in relation to place, time, and the audience or reader. His other means of persuasion are then considered. Channing's style and delivery are examined, attention being given to theories, their genesis, practice, and fitness to accomplish his purposes. Since Channing depended upon private conversation to accomplish so many of his projects, the writer

presents a discussion of his theory and practice of conversation, and of the role it occupied in the fulfillment of his purposes. Finally, a discussion of his American and foreign audiences and readers is presented.

The writer is concerned with both Channing's oral and written efforts. Writing was a means of reaching a larger audience, and not in his own mind considered as a separate literary activity.

Channing's ideas were typical both of the Enlightenment and of the criticism upon the Enlightenment which began to show itself in the late eighteenth century. The Age of Reason had ended in a narrow rationalism which starved the emotional side of human nature. By seizing upon the theory of benevolence, itself a product of the Age of Reason, and by supplementing it with Platonic idealism, Channing sought to give greater impetus to individual, cultural, social, and political progress. He preached a doctrine of individual rights and freedom grounded in moral responsibility.

Channing had a prestige deriving from heritage, an amply cultivated mind, understanding of the art of rhetoric, and the "authority of high virtue." The persuasive power residing in his character is incalculable. Without completely comprehending Channing's purpose, men like Charles Sumner complained at first at what seemed to be a lack of development of the reasoning powers; however, they usually ended by discerning the completeness of his approach, his studied effort to apply warmth to his reasoning in order to arouse the total powers of his listeners and readers. His style was regarded as the best New England had yet produced. Many believed he was not only equal to the best but superior to the best writer in either America or Great Britain. No amount of testimony can quite make clear the advantage that Channing's delivery gave him over the ministers of his time. Rarely has the persuasive power of the living voice been more amply demonstrated.

Just as through his writings he extended the knowledge of the functions of American democracy, and through his preaching and lecturing pleaded for progress, so in his conversations with both Americans and Europeans, he furthered his ends. Having studied the art of conversation, he applied studied method to the many discussions he was called upon to direct.

In America, Channing had the capacity to gain and to hold attention. His themes were adapted to a changing age; his enthusiasm,



benevolence, and liberality of sentiment triumphed over prejudices, roused latent energies, and captivated thousands. His animated writings penetrated practically every corner of the earth and were read with avid curiosity, interest, and admiration. He was regarded pre-eminently as the spokesman for the Republic and, in that capacity, he must be regarded as having contributed immeasurably towards an amelioration of relationships.

A conclusion that Channing contributed vastly in the cultural and social development of America at the beginning of the nineteenth century is warranted. And that his influence was deeply felt abroad is equally true. Through perfected powers of persuasion, he succeeded in impressing his ideas and in stimulating his hearers and readers to what Emerson called "great & awful effort."

Abstracted by MARIE HOCHMUTH, *University of Illinois*

Kenneson, Evelyn P., "A Study of the Speeches and Speechmaking of James Burrill Angell," Ph.D. Dissertation, University of Michigan, 1945.

This is a critical study of the speaking and speeches of Dr. James Burrill Angell, taking into account the speaker's background, themes or points of view, delivery, the speech situations, and the rhetorical nature of his speeches. Six representative addresses were used for thorough analytical criticism. The purpose of the study was to ascertain underlying reasons for effectiveness of Angell as public speaker.

The study includes a biographical survey; analysis of the man and his philosophy; history of his public speaking career; analysis of his delivery; analysis of six representative addresses as to general rhetorical traits, and ethical, pathetic, and logical persuasion.

Dr. Angell gave public addresses throughout the United States, particularly in the East and Middle West, and also during his ministerial service in the Far East. He spoke in university class rooms, on campus lawns, in small chapels, and in large auditoriums. The occasions were classroom lectures, lecture courses, university inaugurals, commemorations, dedications, commencements, and baccalaureates; meetings of academic and honorary organizations, religious groups, business men's clubs, missionary and peace conferences. The kinds and types of people to whom he spoke ranged from university students, faculties, and regents, to pastors of

various church denominations, practical business men, politicians, learned and academic personnel, and to the general public. The purpose of the addresses was usually to inspire, and the usual topics were: China; the Ottoman Empire; mission work; peace; Christianity; higher education. Angell was generally recognized as an able speaker. His speaking manner was simple, direct, and natural.

Angell's principal ethical appeal was wide spread recognition of his right to speak as an authority. In addition, he constantly identified himself with his audience, and adapted his material to them. Much of his material was on a high moral plane.

His principal pathetic appeal was an attempt to rouse his audience to desire the high ideals and aims he promoted. He often urged them to emulate the achievements of other universities.

Angell used both deductive and inductive reasoning, tempering his method to the needs of the occasion. When desirable, he could use abundant factual material; or he could speak in maxims where they served his purpose.

Angell's speeches were clear, logical, and interesting. He preferred narrative presentation of factual material. His language abounded in colorful phrases without sacrificing directness. He used interesting variety in sentence length, and used figures and rhythm appropriately.

Dr. Angell may be epitomized as an impressive speaker expressing grand ideas simply and directly.

Abstracted by CHARLES W. LOMAS, *University of Michigan*

Schrier, William, "A Rhetorical Study of the Political and Occasional Addresses of Gerrit J. Diekema," Ph.D. Dissertation, University of Michigan, 1945.

This study is an investigation in the nature of rhetorical criticism aiming to contribute to an understanding of Diekema's speaking career by making an analysis of the nature and extent of his effectiveness as a speaker. All available speeches of Diekema were consulted from these sources: (1) his library files made available by his relatives; (2) his speeches in the legislature from the *Michigan House Journal*; (3) his Congressional speeches from the *Congressional Record*; his ministerial speeches from photostatic copies on file at the State Department, Washington, D. C.; (5) publications of organizations before which he spoke; (6) news-

paper accounts in daily and weekly newspapers. Relatives and business associates were interviewed. A questionnaire inquiring into the content and delivery of his political and occasional addresses was sent to a selected list of contemporaries. One hundred eight questionnaire returns were recorded in the final tabulations.

Diekema was not one of the country's great orators. A study of his public speaking career, however, discloses that he left an imprint on the more restricted geographical area of his home, community, and state. In the state, his primary contribution was in the field of the organizational phase of Republican party activity. In the community, he contributed perceptibly to the Americanization of the Holland, Michigan, community. He was their interpreter of political events, and their spokesman on ceremonial occasions.

His career covered the period of change from oratory to a more conversational type of delivery. Diekema successfully accommodated himself to this change, and his general effectiveness as a workman in both composition and delivery was high. He was conscientious in preparation. In his early career he memorized speeches, but later resorted to the outline method. He rarely used notes. He had a fine sense of audience adaptation, was excellent in his use of ethical persuasion and emotional appeals, although at times his style approached the grandiloquent.

Diekema was a conservative, and his views on public problems were all approached from this point of view. His contribution to the nation's welfare was not reform, but the preserving of the good in the old established institutions.

Abstracted by WILLIAM SCHRIER, *Hope College*

Davis, Doris Louise, "Public Speaking in Missouri: 1860," M.A. Thesis, University of Missouri, 1945.

The purpose of the study was to determine the uses Missourians made of public speaking in a year of important decisions. The conclusion reached was that Missourians used public speaking in an attempt to solve political, legal, business, religious, and educational problems.

Abstracted by DORIS LOUISE DAVIS, *Venue (Illinois) Public Schools*

Ecroyd, Donald H., "An Analysis of the Theory of Persuasion in Selected American Works on Argumentative Speaking," M.A. Thesis, State University of Iowa, 1945.

To find the meaning of persuasion, as used by selected American rhetoricians since 1895,

books and articles in the field of argumentative speaking were consulted. The traditional view that persuasion is appeal to the emotions while conviction is appeal to the intellect, is largely upheld by Baker, Foster, Stone and Garrison, and Shaw. Winans suspected that, no matter what the end result, persuasion and conviction were two phases of the same process. Woolbert, and Collins and Morris held there was no difference, since all response is some form of muscular action. Monroe adopts a middle-of-the-road philosophy, combining elements of all three concepts. Ewbank and Auer severely limit their definition of persuasion and hedge their discussion with an element of censure. All recognize the importance of emotion in public speaking, and suggest virtually uniform techniques; only with regard to the psychological concept is there argument. The division between conviction and persuasion, though not absolute, eludes all attempts to ignore or deny it.

Abstracted by A. CRAIG BAIRD, *State University of Iowa*

Ellis, Carroll Brooks, "The Alexander Campbell and John B. Purcell Religious Debate, M.A. Thesis, Louisiana State University, 1945.

A study of the religious debate between Alexander Campbell and John B. Purcell in Cincinnati, Ohio, from January 13-21, 1837, on the general proposition of Protestantism versus Catholicism. The background circumstances leading to the debate are surveyed; the seven propositions discussed on succeeding days are summarized from the arguments of the disputants; the constructive and rebuttal methods of the debaters are analyzed with particular attention to the debating of Campbell; numerous conclusions, based upon recognized principles of argumentation and debate, are set forth relative to the workmanship of each man; and the significance of the debate is portrayed and emphasized as an important event in the history of American public address.

Abstracted by DALLAS C. DICKEY, *Louisiana State University*

Gasparovich, Eleanor, "A Study of the Treatment of *Pronuntiatio* by the Ancients," M.A. Thesis, Louisiana State University, 1945.

This study traces the development of the fifth canon of Rhetoric from its known beginnings through the age of Quintilian, with particular reference to bodily action. The restrained manner of the Periclean oratory developed, by the

time of Demosthenes, into the Attic style, which stressed simplicity and propriety of action. Delivery was influenced by the stage, producing exactness of action. Aristotle emphasized the importance of voice in delivery; Theophrastus stressed general oratorical delivery. The conflict between Asiatic ostentation and Attic simplicity, following the Macedonian conquests, was resolved by Cicero in favor of the moderation of the Rhodian school, which provided a compromise between Asianism and Atticism. Training in delivery became important in the orator's education. Quintilian took the best from his predecessors, added his own contributions, and advocated a delivery designed to increase the effectiveness of the oration. The physical fitness and the personal appearance of the orator were discussed at length. Thus *pronuntiatio* developed from rigid restraint to a manner in which the delivery was considered of equal importance to the oration itself.

Abstracted by GILES WILKESON GRAY, *Louisiana University*

Kaiser, Esther Lucille, "Richard Parks Bland's 'Parting of the Ways' Speech," M.A. Thesis, University of Missouri, 1945.

This study analyzes Bland's means of persuasion and points out the factors that contributed to his effectiveness as a speaker. The Aristotelian concept of rhetoric is the basis for the analysis. Bland's "Parting of the Ways" speech apparently possessed elements of high persuasive value. Bland's physical appearance, his character, his reputation, and his manner of speaking all contributed to his persuasiveness as a "plain, blunt man." Bland was concerned, not with producing a literary masterpiece, but with influencing his audience to favorable attitudes and action on the question at hand.

Abstracted by ESTHER KAISER, *Jennings (Missouri) Public Schools*

Lunsford, Rowan, "The Evangelistic Campaigns of Dwight L. Moody," M.A. Thesis, University of Redlands, 1945.

The purpose of this research was to determine what Dwight L. Moody accomplished by persuasion and to discover the techniques or devices utilized and in some instances developed by Mr. Moody.

It was found that Mr. Moody was a persuasive genius; that in ability to mold and fuse audiences into one pattern Mr. Moody antedated Hitler by more than sixty years; that he was,

in a very large measure, responsible for the conversational style of speaking so universally used today; that he demonstrated the complete effectiveness of simplicity of statement, brevity of sentences, and generous use of illustrative material; and that for sheer persuasive power over all classes of people for a sustained period of time, Mr. Moody stands unsurpassed.

Abstracted by J. H. BACCUS, *University of Redlands*

McInnes, Jean Murley, "The Persuasive Methods of Wendell L. Willkie," M.A. Thesis, University of Wisconsin, 1945.

The purpose of the thesis was, by an analysis of the rhetorical style of Wendell L. Willkie, to ascertain the methods of persuasion used. Source materials were newspaper clippings, alumni bulletins, speeches, and statements of policy contributed by the University of Indiana and the Elwood Library, and original material contributed by Mr. Willard Smith, associate editor of the *Wisconsin State Journal*. Wendell Willkie's rhetorical style could be stated thus: 1. He was skilled in argumentation and extempore speaking. 2. He employed, in the main, logical proof. 3. He utilized ethical and pathetic proof in later speeches. 4. He rarely employed polished literary elements in his rhetorical style. 5. He suffered from poor voice quality, and provincialism of diction.

Abstracted by JEAN MCINNES, *Monmouth College*

Rau, Gilbert G., "A Study of Franklin Delano Roosevelt's Four Inaugural Addresses for the Purpose of Finding and Contrasting the Rhetorical Element of Parallel Structure in Each," M.A. Thesis, Wayne University, 1945.

This study is confined to the primary phase of manuscript preparation rather than the later phase of manuscript delivery. The rhetorical element of parallel structure is defined in this thesis as the speaker's inclination to repeat ideas, sentences, words, and phrases in certain characteristic patterns. All evidences of this element are examined progressively through the four inaugural manuscripts. On the basis of the evidence found five conclusions are drawn: 1. The rhetorical element under study is abundantly present in each of the four speeches. 2. The uses of parallel structure cited fall into three patterns or shapes. 3. There is a progressive increase in the proportional use of parallel structure through the four speeches. 4. Other rhetorical elements are found which are natural

manifestations of the parallel structure itself. 5. Finally, a certain mental process is observed in the rhetorical style of the speaker which is characterized by reiterated structural units designed to make clear and to emphasize the original thought.

Abstracted by R. L. CORTRIGHT, *Wayne University*

Ray, Robert F., "An Analysis of Representative Types of Emotional Proof in the Speeches of Thomas E. Dewey in the Political Campaign of 1944," M.A. Thesis, State University of Iowa, 1945.

The problem centered on an appraisal of emotional appeals, their techniques and effectiveness in the speeches of Thomas E. Dewey before the national audience of 1944. The immediate concern of the work concentrated on the candidate's eighteen major addresses. These were transcribed for authenticity. The method is basically that of the critic-historian. The speeches were structurally divided on the basis of ten significant drives of emotional structure in conformity with Aristotelian concepts as interpreted by definition for the 1944 context. Probable effectiveness of these appeals was determined on the bases of frequency and emphasis; criticism and counter presentation by Dewey's opponents; and the validity and logical justification of the drives. The study showed Mr. Dewey probably most effective in appeals to custom and traditions, fear of communism, and desire for economic well-being, and probably less effective in his indictment of the President as incompetent and secretive in his military leadership and statesmanship, and in his appeals to organized labor. Abstracted by ROBERT RAY, *State University of Iowa*

## II. ORAL INTERPRETATION

Lee, Charlotte Irene, "Prosodic Analysis and Oral Interpretation of Selected Poetry of Paul Marie Verlaine," Ph.D. Dissertation, Northwestern University, 1945.

To discover which of the works of Paul Marie Verlaine are most worthy of the attention of the artist-interpreter, by virtue of possessing those qualities which require a trained instrument to bring them to their ultimate artistic level, was the object of this dissertation.

This study was done under the aesthetic discipline, which supposes an objective analysis of the elements inherent in a work of art.

The first section dealt with the life of Paul

Marie Verlaine. No attempt was made to discover previously unknown facts, and the unit is not intended as definitive. Within the biographical unit, only those events were noted which probably affected the manner in which the poet wrote, the subjects with which he dealt, and his attitude toward those subjects.

The second section dealt with the selection of the work or works which were most worthy of the attention of the artist-interpreter. This selection was made on the basis of accepted literary standards, the possession by the works of those elements which require a trained oral reader to bring them out, their reflection of the individuality of the writer, and the degree to which the poet succeeded in following his own precepts as set down in "Art Poétique." On the basis of these considerations, *Romances sans Paroles* was found to be the volume which most consistently demonstrated the above qualities. This conclusion was reached after a careful scrutiny of all the author's works.

The third section of the study contains a detailed and objective analysis of the prosodic elements of each poem in the *Romances sans Paroles*. The accepted rules of French versification were followed, as well as the intrinsic factors of unity, harmony, variety, contrast, balance, proportion, and rhythm which are common to all fine arts. After these were discerned, the poems were prepared for oral interpretation, in order to ascertain which of the elements carried over most directly into oral reading, and of which the artist-interpreter must be cognizant.

It was found that those elements in poetry which Paul Marie Verlaine stressed as most important in "Art Poétique," as well as those which reliable critics agree are his most significant contributions to modern poetry, were those which are most effectively brought out by the two-fold instrument of voice and body of the artist-interpreter. The most significant of these elements was found to be the musical quality of his poetry. The "vers impair" was found to be less important than tone color, the manipulation of vowels and consonants to achieve a particular effect, which depends for its realization on artistically controlled vocal projection. This conclusion was further substantiated by the fact that the musical quality is equally apparent in poems which have an even number of syllables to the line, when attention was given to tone color within the work.

The "imprecis" effect which Verlaine places next in importance, and which is achieved by meticulous care in word choice, is dependent to



a large degree upon the tone color of the words used, and upon the complexity of imagery which those words carry.

The rhythm of Verlaine's poetry depends, in most cases, upon the cadences set up by "enjambments" rather than upon line length. In this respect his briefest lines were found to be the most consistently effective.

These elements of rhythm, tone color, and imagery can be projected only by vocal and muscular response to the material. The first requires attention to the elements of tempo and pause, the second depends upon inflection, enunciation, and voice quality, while the last can be realized only by empathic response. Thus it was concluded that *Romances sans Paroles* was most consistently rich in these factors, and that the contribution of Paul Marie Verlaine was achieved by methods which require an artist-interpreter to bring them to their ultimate artistic level of effectiveness.

Abstracted by CHARLOTTE I. LEE, *Northeastern University*

Vergara, Allys Dwyer, "A Critical Study of a Group of College Women's Responses to Poetry," Ph.D. Thesis, Columbia University, 1945.

The problem was to ascertain the qualitative and quantitative differences which occur in the understanding of the sense and the mood of certain types of poetry when it is read silently by college women students and when it is read aloud to them.

Seventy-six women students from a liberal arts college participated in three experiments in reading poetry. For each of these students information was obtained about certain background factors, such as the following: age, intelligence, rating on a silent reading test and on a vocabulary test, personality traits, vocational interests, home environment, reading habits, recreational activities, attitude toward current events.

Eighty-six poems were selected for the experiment because of the prominence of one of the following poetic elements in each poem: imagery, symbolism, tone color, and rhythm. Three tests were constructed with the poems. Helene Willey Hartley's test of the interpretive reading of poetry was also used.

Five students heard forty-three poems and read silently at their leisure forty-three. They wrote fully on the sense and mood of each poem. Fifteen more students heard under supervision twenty-four of the poems and read silently twenty-four others. (Some of the poems used

by the first group were discarded because of obscurity or familiarity and others were added.) The fifteen students wrote in no more than three sentences their interpretation of the sense and mood of each poem. From the replies of the first two groups, a test composed of multiple choice responses covering the sense and the mood of each of sixteen poems was formulated. Fifty-six additional students took this test. The group was divided into two sections; one section read eight poems silently, while the second section heard these same poems read aloud; the second section read eight different poems silently, while the first section heard these same poems read aloud. Hartley's test was also administered to this group in the same manner.

Case histories of the first group of five and the second group of fifteen revealed a close relationship between a student's background and her interpretation of poetry. A statistical analysis of the responses of the third group disclosed no positive findings about the comparative effectiveness of oral and silent presentation in securing meaning from poetry. The results of Dr. Hartley's test did indicate, however, that oral presentation was more effective than silent reading for this particular group of college students.

Abstracted by MAGDALENE KRAMER, *Columbia University*

Crenshaw, Inez Elizabeth, "A Comparative Study of the Use of Imagery in the Works of Robert Frost and Emily Dickinson:—Significant Values for the Interpreter," Ph.M. Thesis, University of Wisconsin, 1945.

Following a historical background of Emily Dickinson and Robert Frost a thorough analysis was made of the imagery of both poets, with emphasis on its value to the interpreter. Charts were compiled comparing the use of different images of the two poets. The study showed that a comparative analysis of the imagery in the works of two pre-eminent poets with similar backgrounds would prove beneficial to the interpreter. The most important benefits to the interpreter were: first, in the down-to-earth, homely images of these two poets, he is introduced to the fundamental truths of life through familiar and simple media. Second, Miss Dickinson's challenging mysticism is far removed from Mr. Frost's stark realism. This knowledge would of necessity make a difference in the way the interpreter reacts to their images. A study such as the above clarifies these differences.

Abstracted by INEZ CRENSHAW, *Vashon High School, St. Louis*

Minor, Galia Marie, "Contributing Factors to the Decline of Oral Interpretation in the Great Age of Roman Literature," M.A. Thesis, University of Missouri, 1945.

This is a study of functions and methods of Oral Interpretation and its environmental influences contributing to its decline in Ancient Rome from its earliest traces before 240 B. C. to the close of the Silver Age, 138 A. D.

Oral Interpretation and literature declined together. Unrest developed from superstitious religious practices, increase of the general depravity of the people, and lack of freedom of speech provided an atmosphere for this decline. Recitations became ostentatious, empty of content, and artificially presented. Due to an over-elaborate use of false rhetoric, poets and readers became mere poetasters, jealous of their rivals, and poorly paid. Audiences, tired of thinking and of pretending an interest in public readings, sought more spectacular entertainment. Hired applauders lost their interest and once crowded halls were half-filled, and finally vacant. As long as Oral Interpretation served a real purpose, it prospered; when that was lost, it sank in despair. The decline was due to misuse of the art in the context of a disintegrating society.

Abstracted by GALIA MARIE MINOR, *Dunn's Station, Pa.*

### III. RADIO

Dowling, Fred Ritter, "An Analysis of the 1945 Dane County Adult Radio Listener," Ph.M. Thesis, University of Wisconsin, 1945.

The problem was to discover the listening habits of the adult radio listener in Dane County and to compare the results with those from similar vocational and social classes. All available pertinent researches, a two-page questionnaire, and statistics of the 1940 Federal Census, the Agricultural Adjustment Administration, and the Wisconsin Telephone Company, were consulted. After analysis of the population of Dane County, Wisconsin, to whom the questionnaire was to be mailed, the population was divided into urban, rural non-farm and farm families.

Questionnaires with enclosed return addressed stamped envelopes were distributed. Each group was broken down according to occupations which gave the distribution necessary for an accurate sample. The questionnaire was tested by all groups. Twenty-nine plus per cent of the questionnaires were returned. Economic as well

as social backgrounds revealed diversified tastes not only in horizontal levels of income but vertically in each occupation. Dane County is typical of the average listener's taste. Each type of survey needs a particular method; but a combination of methods is better than any single one.

Abstracted by FRED R. DOWLING, *University of Wisconsin*

Nadal, Ruth Dillingham, "A Survey of Radio in the Public Schools of Michigan," M.A. Thesis, Michigan State College, 1945.

A post card questionnaire was sent to all 661 superintendents. Four hundred twenty-eight returns showed 201 using radio in the classroom. Fifty-two per cent of the 227 not using radio had done so earlier; 84% indicated interest if difficulties were removed. Longer questionnaires were sent to 320 schools reporting some use of educational radio. One hundred and sixty-six replied. Sixteen per cent have central sound systems. Forty per cent use radio two hours or more a week. Sixty-two per cent have record playing equipment, but only 8% have transcription playing equipment. Sixteen per cent own recording equipment, but only 5% are equipped to make transcription. Thirty-five per cent broadcast: 9% "on the air" only, 18% public address system only, and 8% do both. Five radio stations in Detroit, and 4 in other parts of the state broadcast classroom programs. Seventeen per cent of the schools listen to a program at least once a week. Radio programs for classroom are considered "practical" or "very helpful" by 68%. Reasons given by superintendents for not using radio were, chiefly: (1) schedule difficulties, (2) poor reception, (3) failure of programs to meet school needs.

Abstracted by IRENE WADE, *Michigan State College*

Peterson, Clayton B., "A Telephone Survey of the Listening Audience for Religious Broadcasts," M.A. Thesis, University of Wisconsin, 1945.

To measure the listening behavior of a radio audience on a particular Sunday morning, a random sample of Madison, Wisconsin telephone numbers was made. Interviewers called for three hours, filling out report blanks for each call. Of the total 1931 calls, 1778 were considered as Net Calls. The Available Audience was found to be 1484 (83.4% of the Net Calls). There were 371 Sets-In-Use (20.9% of the Net Calls). The total of Net Calls was 9.18% of the

total number of residence telephone lines in Madison. Available Audience and Sets-In-Use was higher than expected, contradicting the assumption that Sunday morning is a poor broadcasting period. Program preferences expressed: 1. religious, 2. musical, 3. news-casts. The local station's offerings were preferred to those of larger stations in the vicinity. Most telephone homes have radios. Regularity of listening to specific programs is not as widespread as expected. Radio listeners tend to dial by half-hour periods. The drawing power of a program depends upon the span of broadcasting history, length of the broadcast interval, nearness of broadcast to noon, and the type of broadcast.

Abstracted by CLAYTON B. PETERSON, *University of Wisconsin*

#### IV. PATHOLOGY; PHONETICS

Gerhard, Robert H., "Japanese Pronunciation," Ph.D. Thesis, the Ohio State University, 1945.

This study undertakes a detailed analysis and description of the pronunciation of Japanese, particularly in comparison with the sounds of English and American speech. The existing literature on the subject is very meager and is based primarily upon a consideration of the individual sounds of the language, after the manner of comparable studies of various Indo-European tongues. It is, however, the conviction of this writer that a true appraisal of Japanese phonetics can be made only from the starting point of the characteristically syllabic make-up of that language, and it is this feature of his investigation which he would emphasize in contrast with existing studies.

Building chiefly upon personal observation and deduction made possible by the fact of having spent the greater part of his life in Japan, the writer cites in support of his claim to competence as a phonetic observer his study of phonetics in this country and in England, his years of experience in teaching pronunciation, his published works on the subject, and the recordings which supplement this investigation. After limiting his field of research to that of standard Japanese and critically reviewing the existing literature on the subject, he explains the syllabic structure of Japanese and his procedure of investigating the pronunciation of the language in the light of the interdependent relationships resulting from this inherent linguistic foundation.

There are five distinctive vowels in Japanese, and syllables are composed of these vowels alone or preceded by some consonantal element. The

distinctive consonants number fifteen, of which one is a separate unit occurring only at the end of words or between other syllables—never as a prevocalic element in an open syllable. Except in the case of the elision of a recorded vowel, however, the other fourteen consonants occur only in this initial capacity, and since, with only a few exceptions, syllables may be formed of each vowel prefixed by some variety of each of these fourteen consonants, the syllabary of Japanese is conventionally arranged into a schematic chart of fifteen "Gyô," or rows. Following this arrangement, then, the greater part of the dissertation treats in detail of the sounds and their variations in these syllabic combinations. The point is also drawn that the most widely current system of romanization ("Rô-maji") is based primarily upon an attempt to represent the sounds of Japanese in terms of English consonantal values, whereas the official Japanese system ("Rô-mazi") is designed upon a broad phonemic basis and is therefore superior at least from the standpoint of a satisfactory orthography for that language.

In next discussing the rhythm of Japanese speech, the relatively regular pulse of Japanese "syllabic" time-units is contrasted with the characteristic English alternation of stressed and unstressed syllables, and the difference between Japanese tonal accent and the stress accent of English speech is pointed out. Sentence intonation is, in general, similar to that of English speech, though characteristically of lesser range. In recapitulation, it is pointed out that there is characteristically much less movement of the lips and jaws in speaking Japanese than is the case in English, with the result that consonantal articulation is relatively weak. Conversely to the rule in English speech, however, the vowels are more stable than the consonants, and tend to have a considerably greater influence on any preceding consonant.

In the next to final section, transcriptions and translations are presented of the illustrative recordings which accompany the investigation, while the concluding section is devoted to a few remarks upon the interesting and varied non-phonetic concomitants of Japanese speech which are so noticeable a feature of that language.

A brief bibliography is appended in which are listed the most significant of the few foreign sources dealing with the pronunciation of standard Japanese, together with the available commercial records of Japanese speech.

Abstracted by ROBERT H. GERHARD, *Ohio State University*

Huber, Mary Wehe, "A Phonetic Analysis of Paragnosia and Paraphasia in Receptive Dysphasics," Ph.D. Thesis, University of Wisconsin, 1945.

The general plan of this investigation was to analyze the paraphasia or jargon aphasia of the receptive dysphasic from a phonetic standpoint in order to discover what, if any, relationship exists between the patient's difficulties in perception of a specific verbal unit, i.e., an isolated sound, or word, and his ability to repeat it correctly after the examiner. The six adult aphasic patients used in the investigation had all received a neurological diagnosis of sensory (receptive) dysphasia. Every subject manifested paraphasia or jargon aphasia.

The six tests designed for the investigation may be described briefly as follows:

Tests I and II consisted of isolated symbols of the International Phonetic Alphabet, vowels, semi-vowels, consonants, and affricates.

Test III. One syllable words including vowels, sonant consonants, and sonant affricates.

Test IV. One syllable words including vowels and at least one surd consonant or affricate.

Test V. Two syllable words including only vowels and sonant consonants or affricates.

Test VI. Two syllable words including vowels and one or two surd consonants or affricates.

The six tests were arranged to be presented twice in a given testing period, first with the sounds or words being uttered by the examiner with her mouth hidden by a card and, second, with the examiner's lips uncovered so that the subject could both see and hear the stimulus sound or word.

(1) It seems unlikely that, for dysphasics as a group, there are actually any particular vowel sounds that consistently represent more difficulty than others, either in perception or initiation. It is possible, however, that pure vowels and diphthongs which represent names of letters of the alphabet, hence more meaningful symbols, may be more easily perceived and initiated by some dysphasics.

(2) Surd and sonant consonants, when presented in isolation, appear to be about equally difficult for receptive dysphasics as a group.

(3) The subcortical or "pure" word-deaf patient may experience less difficulty in repeating stimulus sounds than words, providing he does not try to interpret or comprehend the meaning of what he hears.

(4) The cortical or "semantic" dysphasic appears to respond with more certainty to vowels

and consonants presented in isolation than to words.

(5) For receptive dysphasics as a group, one and two syllable words including surd consonants represent greater difficulty either in perception or initiation than one and two syllable words including only sonant consonants; this difficulty is not apparent when the sounds are not combined in words.

In conclusion: A phonetic analysis of the responses of six receptive dysphasics under the conditions of the present investigation indicate that disturbed associational processes frequently alter the character of a perception before the subject is able to formulate the correct response. A psychogenic factor appeared to complicate the problem of interpreting the results of many of the tests. The phenomena of perseveration and association interference appear to complicate the problem of differentiating between incorrect responses due to paragnosia and those resulting from impaired formulation or initiation.

There is a slight indication that, under the conditions of the present investigation, receptive dysphasics experience less difficulty in verbal perception when permitted to take advantage of the additional cue of lip reading.

Abstracted by MARY HUBER, *New York University*

Johnson, Thomas Earle, "A Multiple-Choice Test of Hearing," Ph.D. Thesis, University of Wisconsin, 1945.

This study attempted to determine the validity, reliability, and limits of usefulness of an original test of hearing, designed primarily for young children.

Three groups of subjects, with little or no duplication, were used, as follows: (1) 200 subjects, aged 7 to 87, to determine the validity; (2) 412 subjects, aged 8 to 62, for reliability; and (3) 119 children, aged 4 to 8, for reliability for children.

The materials consisted of an original test of hearing with original test books and test blanks, while the apparatus consisted of the W. E. 6B pure tone and the Sonotone group audiometers. The test consisted of thirty-two sentences, recorded at five levels of attenuation, which directed the hearer to remove one of three pictures from a page in the test book. The test book contained a page for each sentence of the test, on each of which were placed three small colored pictures in shallow pockets. The test blanks contained the test words in groups arranged in columns.



The hearing of the subjects was tested with both the multiple-choice test and the 6B audiometer. Correlations were run between the two sets of scores for an indication of validity. The reliability of the test was found by correlations between initial test and repeat test scores of the second group of subjects, and also by correlating split-half test scores of the first group of subjects. The split-half method was used to determine the reliability of the test when given to young children. Prediction equations for the average per cent hearing loss and the per cent loss of hearing for speech were developed. The effectiveness of the test as a screen for the pure tone audiometer was determined.

*Results.*—(1) For validity, Pearson's  $r$ 's from  $.79 \pm .015$  for 128 cycles to  $.89 \pm .007$  for 2048 cycles were obtained for correlations between the per cent loss for single frequencies and the test score. That between the average per cent loss and the test score gave an  $r$  of  $.89 \pm .007$ , while the  $r$  obtained for the correlation between the average loss for the four speech frequencies, 512 to 4096 cycles, and the test score was  $.91 \pm .006$ .

(2) Coefficients of correlations between initial and repeat test scores of 412 subjects were  $.79 \pm .013$  for the right ear,  $.80 \pm .012$  for the left ear, and  $.79 \pm .009$  for both ears combined. Correlation between the half-test scores of the 200 subjects gave a raw coefficient of  $.97$ , or a Spearman-Brown  $r$  of  $.97$  for the self-correlation of the whole test.

(3) The correlation between the half-test scores for both ears of 119 children gave a raw coefficient of  $.80$ , or a Spearman-Brown  $r$  of  $.89$  as its reliability for young children.

(4) The prediction equation for computing the average per cent hearing loss from a test score was found to be accurate, within the limits of its standard error of  $\pm 6$  per cent, for 80 per cent of the 400 ears. That for the hearing loss speech frequencies was accurate,  $\pm 5.33$  per cent, for 78 per cent of the 400 ears.

(5) As a screen test for the pure tone audiometer, the multiple-choice test correctly designated 90 per cent of the ears with normal hearing in the group of 400 ears. The accuracy of the test in screening ears with slightly impaired hearing ranged from 32 per cent of those with a loss for 8192 cycles to 100 per cent with losses at 1024 cycles, and it detected 73 per cent of the ears with an average loss within the slightly impaired range. The test detected 89 to 100 per cent of the ears with severely impaired hearing for single frequencies, with the exception of 72

per cent for 8192 cycles, and all the ears with an average loss within the severely impaired range.

Abstracted by T. EARLE JOHNSON, *University of Alabama*

Mase, Darrel J., "Etiology of Articulatory Speech Defects," Ph.D. Thesis, Columbia University, 1945.

It was the purpose of this study to investigate the incidence of six selected factors commonly believed to be etiological in nature, and to discover if such factors existed in measurable quantity in children with functional articulatory speech defects long after the defects had become habitual. Similar data were sought regarding the incidence of the same factors in children who had no functional articulatory defects. Six of the most commonly accepted causes of articulatory defects in children were selected for investigation: (1) poor auditory acuity, (2) short memory span, (3) faulty coordination of muscles controlling the articulators, (4) faulty coordination of gross muscles, (5) poor sense of rhythm and tonal memory, and, (6) inferior auditory articulatory discrimination.

Five hundred and eighty-one boys were given individual speech examinations in order to select the 53 boys used in the study who possessed two or more sound substitutions and/or omissions exclusive of lisping. Each of these 53 boys possessed average intelligence, normal hearing, and physical and emotional stability. The boys were selected from the 5th and 6th grades of the Trenton, New Jersey, Public Schools. The 53 boys possessing speech defects were carefully matched, on the basis of chronological age, mental age, sex, racial background, academic achievement, and socio-economic status, with controls who had no speech defects.

Auditory acuity was determined by an individual audiometric examination. Memory span was measured by the digit test, contained in Form L of the New Revised Stanford-Binet Tests of Intelligence. Coordination of the muscles controlling the articulators was measured by six tests formulated by the investigator. Gross muscular coordination was tested and measured by the Health Rail-Walking Test.

Rhythm and tonal memory were measured by the Seashore Measures of Musical Talents, Series A. Auditory articulatory discrimination was measured by a test devised by the investigator. The complete test was recorded with separate phonographic recordings for Part I

and Part II. Part I consisted of two forms (A and B) of 50 sentences, in each of which were 25 sentences with every word correctly articulated. The 25 remaining sentences in each form contained words in which a sound was omitted or improperly articulated. In Part II, each form (Form A and B) included 50 pairs of words, of which 25 contained one misarticulated word.

Four separate periods were scheduled for administration of parts of the battery of tests. The first period was devoted to individual audiometric examinations. The second period involved three separate tests: memory-span test of digits, test of diadochokinetic movements of articulators, and the railwalking test. The third and fourth periods centered around the use of recordings to secure scores for (1) auditory discrimination, (2) tonal memory, and (3) rhythm. The fourth period followed the third period by one week and consisted of other forms of the same tests.

Since the examiner believed that small degrees of difference might reach the proportions of significance if the data concerning the worst cases of speech defectives could be treated as a unit, he made a study of the 26 most exaggerated cases of articulatory speech disability. Thus he was able to compare the results of his study of the 53 speech defectives and their matched controls with the results of his study of the 26 worst speech defectives and their matched controls.

No significant differences were found between children with functional articulatory speech defects and their matched controls on any of the six factors tested. This does not mean that these factors might not have been causes of the defect, but it does mean that, so far as this experimenter could determine, the factors did seem to be present in 5th and 6th grade speech defectives in significantly greater degree than they were present in 5th and 6th grade non-defectives. The only tests in which further research would seem to be likely to reveal significant differences are the tests of auditory acuity and lip mobility. The findings on these two tests did not reach the critical 1% level of significance, but they were within the questionable 1% to 5% level.

Abstracted by DARREL J. MASE

Anders, Quintilla Morgan, "A Study of the Personal and Social Adjustment of Children with Functional Articulatory Defects," Ph.M. Thesis, University of Wisconsin, 1945.

Fifty-three children, ranging from 6 to 12 years of age, with functional articulatory de-

fects—grade level, first through the sixth grade—were studied. Four scores were obtained for each of the subjects: (1) Speech Score, (2) Mental Age, (3) Teacher Rating, (4) Personality Score. The primary and elementary forms of the California Test of Personality, Form A, were administered. According to the California Test of Personality and the accompanying standardized norms, the subjects were above average in adjustment. The median for the group of test scores was 75 and the mean was 65.64. In the correlation between the speech scores and personality scores, we find that:

$$r = +.255$$

$$PEr = \pm .088$$

In the correlation between the mental ages and personality scores:

$$r = -.102$$

$$PEr = \pm .092$$

which indicates no relationship.

In so far as this study is concerned, speech correction for functional articulatory defects cannot be justified on the basis of preventing inevitable personality maladjustments.

Abstracted by QUINTILLA ANDERS, *University of Kansas School of Medicine*

Fleischman, Barbara Louise, "Stuttering and Delinquency," M.A. Thesis, University of Wisconsin, 1945.

The problem of this study was to investigate the number of stutterers in the penal institutions of the State of Wisconsin and to analyze the data in terms of a possible relationship between stuttering and delinquency. The subjects used for this study were the inmates of the eight Wisconsin State Institutions of civil punishment. Following a visit to each institution where the stutterers were interviewed, a check was made of the case histories for statements regarding the person's speech and his aggressive behavior.

(1) No difference was found between criminals and non-criminals in the number of stutterers.

(2) Status of the stutterers:

- a. The age and number of stuttering criminals seemed to bear no relationship.
- b. The sex ratio was only 1 to .97 more males in a criminal population.
- c. Pertinent factors (home and environmental situations) were present that influenced the development of anti-social behavior more than the accident of stuttering to which it had been attributed.

On the basis of this study a correlation between crime and stuttering is highly questionable.

Abstracted by BARBARA FLEISCHMAN, *Portland (Oregon) Public Schools*

Lyons, Edgar Albion, "Relationship of Brain Injuries to the Language Function," M.A. Thesis, Emerson College, 1945.

From data on brain anatomy and clinical workers in the field of speech and writing it was found that injuries to the cerebral cortex produce different symptoms and varying degrees of language impairment depending upon (1) the intelligent and intellectual development of the individual; (2) the imagery type of the individual; and (3) the extent of the injury. There is no definite language center in the brain, and the centers spoken of are not specialized for language to the exclusion of all other functions, but figured prominently in enabling the individual to perform the language function. Since language is but a means of reproducing experiences, either for the benefit of the individual himself or for the benefit of someone else, it follows that language development is on a par with the individual. Persons with different predominating types of imagery must be retrained and re-educated in a manner suited alike to their predominant type of mental imagery, and to the extent and nature of the impairment.

Abstracted by SAMUEL D. ROBBINS, *Emerson College*

Mendenhall, L. Alice, "A Study of the Tactile Discriminative Ability of Perceptive Deaf Children as Compared with Normal Hearing Children," M.A. Thesis, Louisiana State University, 1945.

Twenty-five perceptive deaf children from the Louisiana State School for the Deaf were matched on the bases of age and sex with twenty-five children from Baton Rouge High School. A tactile discrimination test involved five judgment discs measuring, respectively, 36.1, 38, 40, 42, and 44.1 millimeters in diameter and one standard disc measuring 40 millimeters were used. The method of constant stimuli was employed in administering the test. Using the criterion of 75 per cent of the theoretical value in computing the threshold of tactile discrimination, it was found that the minimum increment for the two groups lies somewhere between .95 and .99. Perceptive deaf children seem not

to be significantly inferior to normal hearing children in this test of tactile discrimination.

Abstracted by JEANETTE O. ANDERSON, *Louisiana State University*

Shepherd, Betty, "A Comparative Study of Three Audiometric Techniques for Testing Preschool Children," M.A. Thesis, Louisiana State University, 1945.

Forty-eight children, two to six years of age, from two federal nursery schools in Baton Rouge, were divided into three groups of sixteen each. Each group was tested with one of three methods: regular pure tone audiometric technique; the Bloomer-Bilto picture card technique, using the pure tone audiometer; the writer's revised picture card technique, using the pure tone audiometer. Three conclusions are stated: (1) the regular pure tone method is most economical of time, materials and administrative detail; (2) the picture card techniques are more interesting to the children (evidenced by spontaneity of response), and the acuity means obtained by these methods are comparable to those obtained with the regular pure tone method; (3) the regular pure tone method is efficient when time is a more important factor than establishing rapport and securing interest.

Abstracted by JEANETTE O. ANDERSON, *Louisiana State University*

Smith, Luella Lois, "A Study of the Organization and Administration of Speech Correction in Representative Public School Systems of California," M.A. Thesis, Stanford University, 1945

Questionnaires were sent to both part-time and full-time speech correctionists in average, medium-size school systems throughout the state. Replies, received from 45 speech therapists, indicated an estimated 14% of the school population to be defective in speech. Approximately 25% of the estimated need for this work is being met throughout the state. Case loads average 261 pupils for full-time correctionists, and most of the speech classes are too large. Methods used to locate speech defectives are in 35% of the cases ineffective. The survey disclosed definite need for special rooms, physical equipment, and teaching supplies. Only one-half of the speech therapists reported full support from school administrators and faculty. While much good work is being done at pres-

ent, many problems remain yet to be solved in the opinion of those participating in this study.

Abstracted by VIRGIL A. ANDERSON, *Stanford University*

Suczek, Robert F., "An Analytical Study of Aphasia to Determine Correlation of Nomenclature Used, Tests Employed, and Remedial Methods Suggested, by Various Workers and Writers in the Field," M.A. Thesis, Wayne University, 1945.

The problem of this thesis is to clarify the field of aphasia for the student and possibly the teacher of speech correction, by indicating the correlation of the three major aspects of the field. The aspects chosen are those considered to be the prime concern of the student or teacher: terminology of classification, testing, and re-education techniques. This study surveys and correlates both the classical or historical work and the more recent work presented as nearly as possible in chronological order throughout.

Abstracted by E. WILLIAM BILTO, *Wayne University*

## V. DRAMA AND THEATRE

Belcher, F. S., Jr., "The Place of the Negro in The Evolution of the American Theatre 1767-1940," Ph.D. Dissertation, Yale Graduate School and Department of Drama, 1945.

This is a complete survey of all performances in the American Theatre up to 1940 in which Negroes have appeared or which are in any way concerned with Negro life. The object of the dissertation, other than the accumulation of data (hitherto not available in any one place) is to show the changing attitudes of audiences toward the presentation of Negro characters and Negro songs and the like and of the Negroes themselves toward a stage presentation of their own life.

Abstracted by CONSTANCE WELCH, *Yale University*

Robinson, Marion Parsons, "College Theatres of Tomorrow," Ph.D. Thesis, University of Wisconsin, 1945.

During the war, many colleges began planning theatres to be built in the post-war period. This study was undertaken to determine in what respects the plans met and in what respects they failed to meet the requirements of the theorists and the ideals of the experimenters.

Backgrounds were investigated: of theatre architecture; of theatre activity in colleges; of college theatre building. Material on each prospective college theatre, gathered from publications and from correspondence, was assembled to present as complete a picture as possible. The theories of writers on theatre architecture were organized under various phases of the subject. Plans were tested by the theory and a criticism, objective as far as possible, of each submitted. Projects of the experimenters in theatrical forms were outlined. Finally, a composite theatre plan, incorporating the best features of all, was projected as an ideal toward which future college theatres well might aim.

The college theatres studied meet quite satisfactorily the requirements established for stage space, technical equipment, and work areas. In most other respects they follow tradition, though manifesting definite tendencies toward the following departures: modern functional architectural style; abandonment of the balcony auditorium in favor of a bleacher or stadium form, with steeply sloping single floor; Continental or aisleless seating; acoustical curtains to reduce the seating capacity of large auditoria for dramatic performances; elevator orchestra pits; modifications of the proscenium formula; inclusion of two theatres in one building, the smaller for intimate or experimental purposes but duplicating the larger except in size.

Though evidencing tendencies to depart from precedent, the college theatres planned but still unbuilt are not as bold in their plans to follow the lead of the experimenters as befits the laboratory function which the campus theatre should perform.

Four centuries are enough for presenting plays in buildings designed for a very different art, the opera. Theatre architecture is due for reform. The basis of reform is experiment. The commercial theatre cannot afford to experiment and would not be interested if it could. The logical place for experiment is the college campus. And so upon the college rests the responsibility of opening the way toward a more flexible theatre form. We have the designers and the designs. Why must we go on copying a plan ill-suited to our needs from the first and leave the stimulating new proposals untried? What is needed is initiative and courage.

Every sign points toward a theatre form which will promote or achieve the three-dimensionality that characterized the theatre in its greatest periods, the Greek and Elizabethan, as contrasted to a picture within a frame. The



designers have already shown us how we can accomplish the end. New college theatres should try out some of their ideas, leading the play forth from its picture frame and providing a needed stimulus to future as well as present playwrights.

Plays written for the peep-show type of theatre might prove surprisingly effective on a three-dimensional stage. And, more important, this new (and very, very old) form would stimulate a new drama, adapted to its stirring potentialities. We are not likely to achieve that new drama until we have the new theatre.

The theatre form is going to change in the direction of greater flexibility and greater three-dimensionality. College theatres are going to lead the way. The new forms are going to provide a strong and needed stimulation to both writing and production. Our long-dreamed-of National Theatre must be a chain of theatres with identical stage facilities, whatever the style of their architecture and the size of their auditoria. When the American National Theatre and Academy sponsored its contest for a National Festival Theatre, it specified a theatre on a college campus and pointed to the theatre at The University of Wisconsin and the plans for the theatre at Dartmouth as examples of the type of building they wished to encourage. The colleges of America provide the best possibility for cooperation in the planning of a chain of theatres with standard equipment, as well as the most desirable locations for such theatres and the best chance for profitable use of the plants between visits of a National Repertory Company.

Abstracted by MARION PARSONS ROBINSON, *University of Maryland*

von Tornow, Georgiana Josephine, "The Heroine in American Drama and Theatre Down to the Civil War and Her Relation to 'Life' and the Novels of the Times," Ph.D., Cornell University, 1945.

The heroine in American drama and theatre prior to the Civil War is in this study compared with woman as a living member of organized society (referred to here as "life"), and with her delineation in popular novels. This analysis reveals that in all three divisions of the study, "Life," the Novel, and Drama and the Theatre, the "lady" is the yardstick by which all women of the period were measured. The lady set the pattern for the heroines of drama

and novel; and these fictional heroines established, in turn, an idealized concept of woman imitated by the lady in "life." We note a deterioration in the idea of the lady from the seventeenth to the mid-nineteenth centuries; and regard this decline as indicative of a Gothic or sentimental attitude toward life. We note a revolt by a minority of women against this Gothic attitude in the Movement for Woman's Rights, and general apathy or opposition to this Movement by the majority of women because they feared change. The romantic drama presented a highly idealized concept of woman, and audiences accepted and expected this concept in "life" as well as in the theatre (Jenny Lind is perhaps the type); and as the theatre was limited to a less moralistic audience than the novel, there was within the conventions of the stage, more latitude than within the conventions of the novel, or within decorum set for "life." And we furthermore observe that during the first half of the nineteenth century public taste ran to romantic plays; that the trend of the 'popular' novel was sentimental; and that "life" itself was super-charged with emotion in the upswing of democracy; and that these attitudes of the time characteristically and markedly affected the heroine of drama and theatre.

Abstracted by GEORGIANA JOSEPHINE VON TORNOW, *Penn Hall Junior College*

Adix, La Vern, "The Use of the Revolving Stage in the American Theatre," M.A. Thesis, University of Minnesota, 1945.

This thesis contains a discussion of the origin and history of the revolving stage from the Greek theatre to the beginning of the twentieth century, the various types of revolving stages used as temporary equipment, and those installed as permanent equipment, and a treatment of their construction and operation. When used in conjunction with other machines the revolving stage is a useful device, although it does not solve all of the technician's problems. Revolving stages are being used with increasing frequency in the staging of productions which involve frequent and/or complex changes of scenery. The study of the past use of these devices should prove valuable for technicians of the professional and non-professional theatre.

Abstracted by HOWARD GILKINSON, *University of Minnesota*

Andrus, T. O., "A Study of Laugh Patterns in the Theatre," M.A. Thesis, Louisiana State University, 1945.

The purpose of this thesis was to determine whether or not successive audiences laugh at the same things in a comedy and whether or not the laughs occurring in the same places in successive performances are equally high in intensity or equally long in duration. A play was presented six times with judges to ascertain that successive performances were of equal merit. The laugh patterns were recorded by taking four five-minute samples and one ten-minute sample. The records were played and the volume of each laugh recorded on a power level indicator; the laughs were timed with a stop watch. Analysis of the data revealed that the successive audiences did not always laugh at the same things; laughs during successive performances at the same places were not equally high in intensity or long in duration; when every audience laughed at the same part of the play, the duration was longer than the laughter at the parts when some audiences laughed and some did not.

Abstracted by HARRIETT IDOL, *Louisiana State University*

Bartlett, Betty J., "The Problems of Stage Direction and Production in the Amateur Theatre in War Times," M.A. Thesis, University of Michigan, 1945.

Procedures and problems in various high school theatres were analyzed to determine the best method. The best philosophy for the high school actor is the modified Boleslavsky method. Play selection is determined by type of students and field of drama to be emphasized. Double casting is determined by the needs of the community. Four weeks are needed for rehearsal. The organization of production staff is dependent on cooperation received from co-teachers. Total cooperation of cast, community, administration, and fellow teachers is essential to validity of methods described in the study.

Abstracted by CHARLES W. LOMAS, *University of Michigan*

Brink, Lauren Louis, "A Survey of the Background, Training, and Practice of the Dramatic Directors of the Minnesota Public High Schools," M.A. Thesis, University of Minnesota, 1945.

A questionnaire was sent to 396 play directors in Minnesota high schools. One hundred ninety-

eight replied. A limited amount of college training in dramatics was indicated: 6% had none; the average was 17 quarter hours; only 10% had college majors; 27% had no practical experience in theatre work in college. Only 20% had lighter teaching loads than teachers not engaged in extra-curricular activities; 50% directed at least two plays per year; 87% stated that raising money was the chief objective. Median teaching experience was 3 years. One hundred and seventy-four directors listed 609 educational objectives. Most frequently mentioned were: cooperation, poise, and correct speech habits. Modern comedies with one setting and low royalty were frequently selected.

Abstracted by Howard Gilkinson, *University of Minnesota*

Clayton, Wanda Thomas, "Stars in the Dark," M.A. Thesis, University of Utah, 1945.

An original three-act play treating the problem of a woman left alone in a war-torn world, and her solution of the problems confronting her in readjusting her life.

Abstracted by C. LOWELL LEES, *University of Utah*

Coats, Dorothy Elaine, "Charlotte Cushman: Masculine Repertoire," M.A. Thesis, Louisiana State University, 1945.

This is a study of the career of Charlotte Cushman, the first American-bred actress acclaimed a genius both in America and Europe, with particular reference to her masculine roles. She was not a stage beauty; nothing about her suggested femininity. In appearance she resembled Macready. Her deep, harsh voice was anything but womanly. The elements that contributed to her success were creative originality, arduous training, high intelligence, and diligent study. Her acting was vivid and intense, her movements bold, swift, and calculated, without spontaneity. Each character was studied in detail; her characterizations seemed natural. She preferred Romeo to her other roles, and was eminently successful in the part. Her Cardinal Wolsey, Hamlet, and Claude Melnotte were also well received. Although Cushman's forte was the portrayal of masculine roles, in her earlier years she played a number of feminine parts: Lady Macbeth, Joan of Arc, Portia, Emilia, and others of less prominence. Besides an analysis of her dramatic development, the study presents a detailed chronology of her performances.

Abstracted by GILES WILKESON GRAY, *Louisiana State University*

Fee, Mildred Beard, "A Study and Prompt Book of Shakespeare's *King John*," M.A. Thesis, University of Missouri, 1945.

A complete prompt book of Shakespeare's *King John*, together with background material and designs for costumes and scenery.

Abstracted by MILDRED BEARD FEE, *Norfolk Junior College, Norfolk, Nebraska*

Hicklin, Fannie Ella Frazier, "A Translation of *La Belle Aventure*, a French Comedy in Three Acts," by De Caillavet, De Flers, and Rey, M.A. Thesis, University of Michigan, 1945.

This is a translation of a popular contemporary French play into idiomatic English dialogue and in a form suitable for amateur production. The translator first read the play several times to get the mood, theme, and general role of each character. From an initial literal translation, subsequent revisions provided a more conversational style, eliminated dubious dialogue, and modified the form by abolishing the customary French scenes.

Abstracted by CHARLES W. LOMAS, *University of Michigan*

Motter, Opal Euard, "A Production Prompt Book for *The Critic or a Tragedy Rehearsed* by Richard Brinsley Sheridan," M.A. Thesis, University of Michigan, 1945.

This thesis presents a completely detailed prompt book with scene designs, costume plates, lighting plots, and characterization discussion for a workable plan for production. Historical research in the period shows the author intended to present satirical comment on his contemporaries in acting and dramatic criticism. Conclusions indicate much of what was satirized in play writing has still to show improvement; truthful interpretation in acting was short of modern standards; the playwright of Sheridan's day was at the mercy of the hired critics and actor's whims. The public enjoyed the sentimental and believed in vincer over truth.

Abstracted by CHARLES W. LOMAS, *University of Michigan*

Ogg, Jacqueline, "The Development of That Movement in Contemporary Dance Called the 'Modern Dance,' with Special Reference to Its Function in Theatrical Art," M.A. Thesis, Stanford University, 1945.

This is an historical study of the attempts

to revive dance as an art and not merely as an entertainment, which began with the work of Isadora Duncan, Ruth St. Denis, and Ted Shawn. Their followers and pupils, in the effort to make dance a true art form, eschewed superficial devices of theatricality and tried to make the dance a separate and independent art form. More recent leaders of the dance have re-borrowed certain theatrical effects from the theatre, and recent theatre directors have borrowed more of the special effects and devices of the dance. The thesis contains a summary and critical estimate of many of the leading artists of the dance.

Abstracted by F. COWLES STRICKLAND, *Stanford University*

Rauschenbusch, Lisa, "Critique of the Theatre: An Essay in Systematic Dramaturgy," A translation of *Kritik der Bühne: Versuch zu systematischer Dramaturgie*, by Julius Bab (Berlin, 1908), M.A. Thesis, Cornell University, February, 1945.

The book translated is Julius Bab's first major attempt to locate and analyze the essence of theatre art and the important problems of theatre artists and craftsmen. It is divided into three major sections, "Drama," "Acting," and "Theatre." A short biography of Bab and a bibliography of his books and pamphlets are appended to the translation.

Bab finds that the dramatic poet and the actor are the only true artists of the theatre; that the particularity and most of the crucial problems of drama and acting are rooted in the interdependence of these two arts; and that this interdependence is the essence of theatre art, and the source of its peculiar power.

Abstracted by LISA RAUSCHENBUSCH, *University of Rochester*

Wheaton, Eunice, "Two One-Half Hour Radio Dramas for a Children's Audience," M.A. Thesis, Northwestern University, 1945.

Two original radio plays: "Cadwallader, Son of Hate," and "Cheng Pachia, Student Warrior," representative of a suggested series dealing with emotional and ideological problems arising in children during a war period. They were written according to given criteria established by the Federal Radio Education Committee and other authorities. They were produced and recorded with players from children's creative dramatic classes.

Abstracted by WINIFRED WARD, *Northwestern University*

Wilson, Bertha Amelia, "A History of the Theatre in Youngstown, Ohio," M.A. Thesis, University of Michigan, 1945.

This thesis describes the theatrical history of Youngstown in the nineteenth century. Material was derived from Youngstown newspapers and from interviews with persons associated with the theatre in Youngstown. In addition to recording the plays and players of the period, and the dramatic facilities available to traveling companies, the thesis includes excerpts from reviews of plays, including, among many others, performances by Edwin Booth, Joseph Jefferson, and Julia Marlowe.

Abstracted by CHARLES W. LOMAS, *University of Michigan*

## VI. EDUCATION

Gillis, Hugh Wilson, "A Study of Some Characteristics of Successful Speech Majors," Ph.D. Thesis, Stanford University, 1945.

A study of selected characteristics in order to discover those that might be correlated with superiority in the speech field.

Subjects included 98 graduated speech majors of San Jose State College (San Jose, California) and 25 honor graduates of each of the following departments: social science, natural science, music, art.

The problem of this study was the outgrowth of fifteen years of intimate association of the writer with the long recognized problems and activities of college majors in the field of speech and drama. It was a study of a series of characteristics and traits and abilities with the attempt to come to some conclusion as to whether or not any of them seemed to be indicative of success in speech work.

In examining the 56 selected characteristics in their relation to superiority in speech work, 98 speech major graduates of San Jose State College were used as an experimental group, while 25 honor graduates from each of the fields of social science, natural science, art, music were used as control groups.

The 98 speech majors were given two rankings: one on grade point average in oral speech classes, and one on extent of participation in oral extra-curricular activities sponsored by the speech and drama department. The combination of these two rankings placed the 98 in an order of superiority in oral speech work as defined in the study. Of 33 objectively measured items, 14 seemed to be definitely related to speech

superiority, including: various divisions of grade point averages, participation in extra-curricular activities of all types, speed and comprehension in reading, and the traits of self-sufficiency, dominance, confidence. In 13 items the study did not detect any definite positive relationship to speech superiority. Included in this group of items were: neuroticism, extroversion, musical talents, social intelligence, mechanical aptitude, home and parent occupation ratings, and type of high school attended. The relationship of the remaining 6 items was indefinite.

A study was made of an additional 23 items through case analyses. For this purpose, 10 members of the superior speech group and 10 members of the inferior speech group were extensively interviewed. Of the 23 items, 13 seemed to be definitely characteristic of superiority in speech, including: parent interest in the arts and encouragement of the child's activities, early acquaintance with the arts, breadth of social contacts, access to a home library, family interests in reading, superior physical appearance, emotional stability, ability to concentrate, liberal mindedness, and sureness of future objectives. Ten of the items showed no discernible differences between the two groups. These items included: nationality of parents and family economic status, size of family, religious training and attitudes, ability to memorize rapidly, presence of personal affections.

Although certain stringent limitations were placed on the selection of the students included in the study, thus causing the difference between the means on various items to be smaller than might otherwise be expected, the conclusions of the study are definite in the contention that there are tendencies characteristic of superior students in the speech field.

Aside from those findings discussed above, the writer concluded that there seem to be certain clusters of factors, e.g., an "aesthetic values" item, which may more clearly be correlates of speech success than are the individual items given measurement by the study.

The study unearthed several closely related problems which seem worthy of further study, for example: the relationship of superiority in speech to the field of emotional sensitivity and spontaneity of expression, the relationship to the ability to deal with abstractions of idea and form, the relationship to the entire field of aesthetic appreciation, the relationship to the



trait of sense of humor and its attendant objectivity of mind.

Abstracted by HUGH W. GILLIS, *San Jose State College*

Reid, Gladys, "The Efficacy of Speech Re-Education in the Elementary School," Ph.D. Thesis, University of Wisconsin, 1945.

The purposes of this research were to study the effect of speech re-education and maturation upon functional articulatory defects; and to study the presence of other measurable developmental factors in relationship to the presence of functional articulatory defects and the effectiveness of speech re-education.

The materials used were the ordinary equipment, e.g., 2A audiometer, and test forms found in the well equipped speech and psycho-educational clinics.

Two groups of children with functional articulatory defects were selected and matched. One group, the experimentals, was subjected to speech re-education for a period of five months. The other group, the controls, was given no speech training. Numerous measurements and data were collected on the children in both groups.

In a period of five months among elementary school children the improvement made in articulation was decidedly in favor of the group who had received special speech training. There was a tendency for all the children, no matter what the grade level, who had received special speech training, to improve considerably more than the children who had not received special training, although these latter children made some slight improvement in articulation ability.

There was a low positive relationship between chronological age and articulation ability. There was no relationship between articulation ability and intelligence when the level of intelligence is above that indicated by an I.Q. of 70.

Articulation ability is not related to height, weight, strength of grip, dentition, auditory memory span, neuromuscular control, kinaesthetic sensitivity, reading achievement, and social adjustment. There is a positive correlation between articulation ability and the ability to discriminate between speech sounds.

Improvement in articulation ability is not related to kinaesthetic sensitivity, personal and social adjustment, chronological age, or mental age. There is a low positive correlation between

improvement and intelligence quotient (all I.Q.'s were 70 or over), and between improvement and ability to discriminate between speech sounds.

There is no relationship between speech improvement and growth in dentition, height, weight, strength of grip, and neuromuscular control.

Speech therapy with functional articulatory defectives in the elementary schools is effective at grade levels one through eight. Although maturation plays a part in a child's learning to speak correctly after he enters school, it is at best a very slow process as compared with the speech improvement effected by special speech training.

Insofar as diagnosis, therapeutics, and prognosis of functional articulatory defects are concerned neither the degree of severity of the defect nor the potential response to special speech training are related to chronological age, mental age, auditory memory span, dentition, height, weight, neuromuscular control, kinaesthetic sensitivity and social maturity.

Ability to discriminate between speech sounds is one factor measured (with the exception of intelligence) that stands as being positively related not only to severity of speech disorder but also to the response made to special speech training. Hence our current practice of considering this factor in clinical speech procedure, particularly in speech therapy, has been justified.

A program of formal speech re-education for functional articulatory defectives seems desirable for several reasons. Some children do not attain perfect articulation throughout their elementary school career without special training. Who these will be we cannot predict with our present knowledge. Moreover, although it has not been demonstrated that functional articulatory defects *per se* are responsible for social maladjustment, speech re-education may eliminate the possibility of the development of feelings of inadequacy which are frequently observable in individual cases in clinical practice.

It is self-evident, too, that children with these defects are inefficient in intellectual self-expression until they learn to speak correctly. Speech re-education is a rapid and effective method of teaching correct speech patterns to children above kindergarten level.

Abstracted by GLADYS REID, *Brooklyn College*

Curtis, Agney Bernadette, "The Relationship Between Visual and Auditory Stimuli in Speech Comprehension," M.A. Thesis, The Ohio State University, 1945.

The problem was to ascertain the difference between scores for groups of words when children in elementary grades "See and Hear" them simultaneously and when they only "Hear" them. Four hundred children attending Lincoln Park School, Columbus, Ohio, took part in the tests. Two Word Discrimination Tests and one Picture Discrimination Test were constructed for this study. For the "See and Hear" groups of words the children were required to watch and hear the speaker; for the "Hear" group they were directed to close their eyes and listen. Results seem to indicate that for the Word Discrimination tests twelve out of twenty groups of children who took the tests had higher mean scores for the "See and Hear" lists than for the "Hear" lists. The Picture Discrimination tests resulted in higher scores generally, and in considerably higher mean scores for the "See and Hear" lists than for the "Hear" lists, in six out of the eight groups tested.

Abstracted by WILLIAM H. EWING, *Ohio State University*

Dunagan, Martha, "The Effect of Study in General Semantics upon the Reaction to Religious Problems Presented on the Verbal Level," M.A. Thesis, University of Denver, 1945.

Eighteen pairs of questions with three possible completions were devised. One question of each pair dealt with a religious problem. Questionnaires were sent to an equal number of non-college middle-aged adults, to college students lacking training in general semantics, to Korzybski's seminar, to Denver University general semantics students, and to theological students. This study revealed: (1) whether or not they are aware of general semantics formulations, persons tend to use or violate the same general semantic formulations in religious and secular problems when they are presented on the verbal level; (2) persons who have studied the application of general semantics to secular problems tend to apply these formulations to the evaluation of religious problems, this resulting in a critical evaluation of the mechanisms involved when the religious problem is transferred from the level of experience to the verbal level; (3) the formulations of general semantics can be used to test the

validity of both secular and religious illustrations.

Abstracted by DOROTHY C. BAKER, *Denver University*

Edwards, Charlene Frances, "A Study of the Relationship of Spontaneity to Personality," M.A. Thesis, University of Denver, 1945.

Twenty-one high-school students were given the spontaneity test upon the basis of their scores in the personality test measuring egocentric introversion, objective introversion, egocentric extroversion, and objective extroversion. Subjects created three imaginative situations chosen by the tester. After three judges rated each subject on eight items, a comparison was made with spontaneity ratings, scores on the personality test, and score in a mental test. Ten students objectively extroverted or introverted had more spontaneity than students egocentrically introverted and extroverted. Five showing marked tendencies for both objective introversion and objective extroversion had more spontaneity than students both egocentrically introverted and extroverted. Thirteen students below the fiftieth percentile rank and fifteen below the mean score in mental ability showed more spontaneity than the eight and six respectively ranked above. The spontaneity test revealed the individual's emotional, mental, and social behavior, and proved valid as an effective vocational aptitude test and personality inventory.

Abstracted by DOROTHY C. BAKER, *Denver University*

Fergen, Geraldine Katherine, "A Five-Year Survey of Twenty-Two Children in the Public School of Norway Township, Michigan," A.M. Thesis, Louisiana State University, 1945.

This study is based on a five-year survey of twenty-two children in the public school of Norway Township, Michigan, as they progressed from kindergarten through the fourth grade. Each child and the group as a whole were studied in terms of family backgrounds, health histories, behavior ratings, intelligence and achievement, and speech abilities. From this survey, it seems that in normal child development there are relationships between and among these factors with the exception of a relationship between intellectual abilities and speech difficulties.

Abstracted by JEANETTE O. ANDERSON, *Louisiana State University*

Harang, Myra White, "The Public Career of Francois Delsarte," M.A. Thesis, Louisiana State University, 1945.

The purpose of this thesis was to contribute to the previous studies of Francois Delsarte an analysis of his public career as revealed by a number of French newspapers and clippings from newspapers published during his lifetime and immediately after his death. These were found in a collection of Delsarte material now in the possession of the Department of Speech, Louisiana State University. After translation, the analysis of the material revealed certain revelant facts. Early in life, Delsarte was left an orphan. He was sent by Père Bambibi to the Conservatory in Paris to study music. After leaving the Conservatory, he made an attempt at success on the stage, but failed. He then became a successful singer and teacher. His concerts were praised by some of the most renowned critics of the period. He drew from oblivion the compositions of several old masters, such as Gluck and Lulli. Many famous artists were among his pupils. In Europe, Delsarte was famous as a singer and a teacher of singing; in America, he was famous as a teacher of declamation.

Abstracted by HARRIET IDOL, *Louisiana State University*

Jacobs, John H., "A Study in Communications in the Baur's Stores in Denver, Colorado," M.A. Thesis, University of Denver, 1945.

The study consisted of a history of the communication in the Baur industry from its founding in 1872 to the present time. It was learned that the verbalisms received and transmitted are the major "channels of control" in the functioning of managers and workers. The chief factor in controlling the human relations in the enterprise was the communications, particularly the speech which went on. Communications emerged as a chief factor in the "ups and downs" of efficiency, productivity, and general success and failure of the enterprise. As the lines of communication within the enterprise became blocked, the morale of the employees decreased. For this industry speech education has been demonstrated as being of particular importance, not for the development of public speakers, but for the training in general human relationships. The speech training needed for industry, as demonstrated here, should give an emphasis not merely to trans-

mission and delivery, but to the evaluation of facts and the auditor response.

Abstracted by DOROTHY C. BAKER, *Denver University*

McClung, Florine Fox, "Principles of Education Applied to the Teaching of Speech in Junior High School," M.A. Thesis, Baylor University, 1945.

A study was made of principles and techniques for general teaching and for the teaching of various phases of oral communication. Units were developed which coordinated techniques of speech with principles of education. These units were tested in the class room of a Junior High School. There is a close correlation between ideas of education and techniques of speech. Speech units developed by close adherence to ideas of modern educators contribute to the effective teaching of speech.

Abstracted by SARAH LOWREY, *Baylor University*

Mullin, Daniel Webster, "A Critical Survey of the Architecture of Thirteen High School Stages and Auditoriums in the Detroit Area," M.A. Thesis, University of Michigan, 1945.

Using the criteria for good theatre design as determined by Lee Simonson, Sheldon Cheney, Barnard Hewitt, and others, a comparative study was made of thirteen high school auditoriums and stages in the Detroit area. Data were collected in the following ways: a study was made of the blueprints of each high school stage and auditorium; structural points not evident in blueprints were sought through an investigation of the stage itself; each high school director or technician available was interviewed for information concerning individual production problems. Evidence showed high school stages to be inefficient for production, due to faulty architecture. The solution might lie in securing services of a theatre technician to advise architects in construction of auditoriums.

Abstracted by CHARLES W. LOMAS, *University of Michigan*

Munz, Dorothy Jane, "A Study of the Variables Which Might Influence the Reliability of Sentence Tests of Speech Perception," M.A. Thesis, Northwestern University, 1945.

When lists of sentences are used in measuring thresholds of hearing for speech, it is important to have sentences which are equally hard to hear. The study explored factors which affect the internal consistency of sentence tests

with the view to constructing a reliable test. Short sentences showed more variability than long sentences. There was little difference between thresholds for individual words in a sentence, and the threshold for the whole sentence. Recognition of any word in a temporal energy pattern seemed as important to understanding a whole statement as recognition of critical or clue words.

Abstracted by HAROLD WESTLAKE, *Northwestern University*

Neuroth, Mary Ellen, "Speech Opportunities in High School Assemblies," M.A. Thesis, University of Michigan, 1945.

This thesis is an attempt to determine the relationship in Michigan high schools between training in speech and participation in assembly programs. A questionnaire containing 31 questions was sent to each of the 200 member high schools of the Michigan High School Forensic Association. One hundred and six schools or 53 per cent returned them. Data were tabulated and conclusions drawn. In five-eighths of schools, speech students present assembly programs. Speech students presented approximately 500 programs per year in schools reporting. The number of assembly programs presented by speech students increases as the number of speech courses and extra-curricular speech activities offered increases. Nine speech activities are used: public speaking, dramatics, speech contests, discussion, oral interpretation, student introduction of guest speakers, radio speaking, choral speaking, and debating.

Abstracted by CHARLES W. LOMAS, *University of Michigan*

Nixon, Cynthia Delmar, "Negro Speech in Haynesville, Ruston, and Baton Rouge, Louisiana," M.A. Thesis, Louisiana State University, 1945.

The purpose of this thesis was to discover deviations from standard Southern speech, to estimate the influence, if any, of General American speech in communities where it and Southern dialects are mixed, and to compare sub-standard Southern deviations of informants in north Louisiana with those of Baton Rouge. Eight Negro women, representing the two sections of Louisiana, were the informants. When the data were tabulated, it was found that the speech of the Baton Rouge residents conformed more nearly to the general American than did that of the north Louisiana residents, and that the Baton Rouge residents made more

errors of substitution, omission, and insertion than did the residents of north Louisiana.

Abstracted by HARRIETT IDOL, *Louisiana State University*

Ritter, Rosamund Cook, "Talking Times: A Workbook in Speech for Fourth, Fifth, and Sixth Grades," M.A. Thesis, University of Denver, 1945.

This is a phonetic workbook correlating the work in speech with that of other subjects of the curriculum. Organized in sequential units based on experiences and interests common at the intermediate level, it has proved an excellent motivating and teaching device over a three-year testing period. It has increased pupil effectiveness, not only in developing personal and social skills, but also in widening the interest range.

Abstracted by DOROTHY C. BAKER, *Denver University*

Rossilli, Valentine Diane, "A Study and Evaluation of the Use of Drama as an Aid to Personality Development and Speech Correction," M.A. Thesis, University of Denver, 1945.

Seventy students were cast in roles exemplifying personality tendencies opposite to their own, or, in cases where the object was to further develop the speech skills of the subjects, in roles consonant to their personalities. Results were: (1) nearly all subjects seemed to accept the play experience in good spirits; (2) the students with introverted tendencies seemed to respond less positively toward their characterizations than did those with high egocentric-extroversion and objective-extroversion; (3) the responses to the interview questionnaires at the beginning of the project as compared to the responses at the end revealed that reactions toward speech situations had improved. The reasons predominating were (a) practice, and (b) increased liking for speech. (4) The dramatic experience provided a greater opportunity for them to exercise the teachings that were being advanced in the speech class at the beginning of the course.

Abstracted by DOROTHY C. BAKER, *Denver University*

Seip, Helen Stetler, "A Study in Listener Reaction to Voice Quality," M.A. Thesis, Louisiana State University, 1945.

The purpose of this thesis was to investigate reactions to voice quality and the words used to describe the reaction. Phonograph records



of ten vocal types were made and played before a group of freshmen untrained in speech and before a group of graduate students and faculty of the Department of Speech, who checked adjectives commonly used to describe vocal qualities and reactions to them, and added adjectives which seemed descriptive. When the questionnaires were analyzed, it was found that there was general agreement between the two groups concerning the voices which they liked and disliked. Both groups expressed their reactions in terms indicating the personality of the speaker more often than in terms relating to the structure and functioning of the vocal organs. The graduate students and faculty checked conventional terms to describe the voices, but the students often used words or phrases of their own choice.

Abstracted by HARRIETT IDOL, *Louisiana State University*

Thaler, Margaret Bridget, "An Introductory Study of the Inference Mechanism in the Teaching of Public Speaking," M.A. Thesis, University of Denver, 1945.

Members of a Denver University public speaking class were given the following projects: (1) to rate their ability and performance, listing factors causing them so to rate themselves; (2) to estimate audience response toward them as speakers and toward their subjects before and after speaking; (3) to observe three persons as they spoke, describe the auditors' actions, and list their own inferences; (4) to announce their topics to auditors, who wrote their reactions about the topic before and after the speech. Conclusions: (1) the average speaker could accurately estimate the reactions of only a small percentage of the auditors; (2) speakers tended to make inferences more often than descriptions of the situations they observed while speaking; (3) the inference mechanism has a very large place in public speaking; (4) the teacher, speakers, and auditors in the college public speaking class should become more aware of the inference mechanism and its place in the thinking process.

Abstracted by DOROTHY C. BAKER, *Denver University*

# GRADUATE THESES—AN INDEX OF GRADUATE WORK IN SPEECH AND DRAMA—XIII\*

FRANKLIN H. KNOWER  
*Ohio State University*

## SECTION I

THIS report records 230 graduate degrees in Speech. There are 102 Masters' degrees with thesis and 110 without thesis. Eighteen doctorates in speech were granted in 1945. This represents a step back up the ladder from our 1944 totals. The report for next year should show a substantial increase in our road back to the pre-war peak year of 1941. The total number of graduate degrees now reported in our field approaches five thousand. By the time this report appears in print, we shall have exceeded that number.

We include this year for the first time the data on the graduate degrees granted at The College of the Pacific. A first doctorate in dramatic art is reported for Western Reserve University.

Table I is presented to summarize the number and types of degrees reported by various institutions. Table II has been prepared to include the total number of times the theses numbers are reported in each area. This represents a departure from the plan of tabulation and computation of percentages used in this table in the first eleven reports.

Section III contains an index of the titles classified into seven major subject matter areas in the field. Radio theses are given an independent classification in this report. Many title numbers appear in more than one area. Doctorate theses are indicated by an asterisk following the number.

\*The data for this report have been supplied by the institutions involved. The author gratefully acknowledges the continued cooperation of graduate speech program directors in collecting the data reported.

TABLE I  
INSTITUTIONAL SOURCES OF DEGREES GRANTED (1945 DEGREES IN PARENTHESES)

	MASTERS' DEGREES			Doctors' Degrees	Combined Total
	With Thesis	Without Thesis	Total		
Akron, University of .....	2		2		2
Alabama, University of .....	17	1	18		18
Baylor University ..... (1)	8		8		8
Brooklyn College .....	17		17		17
Carnegie Institute .....	11		11		11
Colorado State Teachers College (1)	13	(1) 1	14	1	15
Columbia University Teachers College .....	5	(33) 835	840	(1) 35	875
Cornell University ..... (1)	137	7	144	(1) 45	189
Denver, University of ..... (8)	73		73	1	74
George Washington University .....	2		2		2
Grinnell College .....	1		1		1
Hawaii, University of .....	6		6		6
Illinois, University of ..... (4)	23		23		23
Indiana University ..... (2)	14		14		14
Iowa, State University of ..... (14)	513		513	(1) 68	581
Louisiana State University ..... (11)	97		97	16	113
Marquette University ..... (3)	36		36		36
Michigan, University of ..... (9)	99	502	601	(2) 35	636

TABLE I—Continued

Michigan State College . . . . .	(3)	12		12		12	
Mills College . . . . .		2	1	3		3	
Minnesota, University of . . . . .	(3)	53	(5)	11	64	5	69
Missouri, University of . . . . .	(4)	20			20		20
New Mexico Normal Univ. . . . .		8			8		8
Northwestern University . . . . .	(2)	253	(32)	301	554	(1)	23
Ohio State University . . . . .	(2)	50			50	(2)	7
Ohio University . . . . .	(3)	13			13		13
Ohio Wesleyan . . . . .		26			26		26
Oklahoma A. and M. . . . .		1			1		1
Oklahoma, University of . . . . .	(1)	16			16		16
Pacific, College of the . . . . .		11			11		11
Pennsylvania State College . . . . .		17			17		17
Purdue University . . . . .		10	5		15		15
Redlands, University of . . . . .	(1)	4			4		4
South Dakota, University of . . . . .		7			7		7
Southern Calif., University of . . . . .	(1)	159	(16)	325	484	(1)	20
Stanford University . . . . .	(2)	38			38	(1)	2
Syracuse University . . . . .		19	2		21		2
Utah, University of . . . . .	(2)	23			23		23
Washington, University of . . . . .	(1)	82			82		82
Washington, State College . . . . .	(1)	11			11		11
Wayne University . . . . .	(2)	44	(2)	26	70		70
Western Reserve University . . . . .		1	(13)	111	112	(1)	1
West Texas State College . . . . .		4			4		4
Wisconsin, University of . . . . .	(7)	294	(6)	23	217	(6)	64
Yale University . . . . .		57	(2)	117	174	(1)	12
Totals . . . . .	(89)	2309	110	2268	4577	18	337
							4914

TABLE II

THESES CLASSIFIED BY SUBJECT MATTER AREAS

		Previous Lists	New Lists
Fundamentals	Masters'—Number	988	33
	Per Cent	19.60	20.49
	Doctors'—Number	192	3
	Per Cent	26.80	10.34
Public Speaking	Masters'—Number	490	18
	Per Cent	9.70	11.18
	Doctors'—Number	127	7
	Per Cent	17.75	24.14
Interpretative Reading	Masters'—Number	161	3
	Per Cent	3.20	1.86
	Doctors'—Number	8	1
	Per Cent	1.15	3.45
Radio	Masters'—Number	126	10
	Per Cent	2.50	6.21
	Doctors'—Number	13	1
	Per Cent	1.80	3.45
Dramatics	Masters'—Number	1417	39
	Per Cent	28.10	24.22
	Doctors'—Number	123	9
	Per Cent	17.20	31.03
Speech Pathology	Masters'—Number	397	18
	Per Cent	7.90	11.18
	Doctors'—Number	76	4
	Per Cent	10.60	13.79
Speech Education	Masters'—Number	1467	40
	Per Cent	29.00	24.84
	Doctors'—Number	177	4
	Per Cent	24.70	13.79

## SECTION II

## TITLES

## BAYLOR UNIVERSITY

1945

*M.A. Thesis*

2527. McClung, Florine Fox, Principles of Education Applied to the Teaching of Speech in Junior High School.

## COLORADO STATE COLLEGE OF EDUCATION

1945

*M.A. Thesis*

2528. Harris, Charles N., "Let My People Go"—An Original Play of the Exodus.

## COLUMBIA UNIVERSITY—TEACHERS COLLEGE

1945

*Ph.D. Thesis*

2529. Mase, Darrel J., Etiology of Articulatory Speech Defects.

## CORNELL UNIVERSITY

1945

*M.A. Thesis*

2530. Rauschenbusch, Lisa, A Translation of Julius Bab's *Kritik der Bühne*.

*Ph.D. Thesis*

2531. Von Tornow, Georgiana J., The Heroine in American Drama and Theatre to the Civil War.

## UNIVERSITY OF DENVER

1945

*M.A. Theses*

2532. Davis, Lawrence, A Semantic Approach to the Guidance of Eight Children in the Colorado State Home.
2533. Dunagan, Martha R., The Effect of Study in General Semantics Upon the Reactions to Religious Problems Presented at a Verbal Level.
2534. Edwards, Charlene, A Study of the Relationships of Spontaneity to Personality.
2535. Jacobs, John, A Study of the Communications in the Baur's Stores in Denver, Colorado.
2536. Lavery, Bernice, A Word-Picture Dictionary. The Use of Radio in Improving Awareness of Word-Fact Relationships at the Sixth Grade Level.
2537. Ritter, Rosamund Cook, Talking Time, A Work in Speech for the Fourth, Fifth and Sixth Grades.
2538. Rossilli, Valentine, A Study and Evaluation of Drama as an Aid to Personality Development and Speech Correction.

2539. Thaler, Margaret, An Introductory Study of the Inference Mechanism in the Teaching of Public Speaking.

## UNIVERSITY OF ILLINOIS

1945

*M.A. Theses*

2540. Kerchenfaut, Lois Carolyn, Mental Testing of the Deaf.
2541. McLaughlin, Florence Ester, A Study of Speech Problems Found Among Cleft Palate Cases as Shown by the Records of the Division of Service for Crippled Children.
2542. North, Ira L., The Rhetorical Method of Alexander Campbell.
2543. Williams, Mary Elizabeth, An Annotated Bibliography Pertaining to Thyroid and Pituitary Anomalies as Manifested in Speech Disorders.

## INDIANA UNIVERSITY

1945

*M.A. Theses*

2544. Hatfield, Jack L., A Dramatization of Ten Short Stories by O. Henry for the Stage.
2545. Mosier, Katherine Viau, A Study of the Horizontal Dysintegration of Breathing During Normal and Abnormal Speech for Normal Speakers and Stutterers.

## STATE UNIVERSITY OF IOWA

1942

*M.A. Theses*

2546. Byse, Helen Scott, A Comparative Study of the Speech Techniques of Franklin D. Roosevelt and Wendell L. Willkie in Two Major 'National Defense' Addresses of the 1940 Presidential Campaign.
2547. Richards, Gale Lee, An Analysis of Certain Stylistic Differences in Extempore and Written Speeches of Selected Speakers.

1945

2548. Buckley, Sister Mary Lorenz, A Study of *Lazarus Laughed* and Its Relation to the Bible.
2549. Carmichael, Ava Louise Smith, Sarah Kemple Siddons: A Study in Acting.
2550. Case, Merline, Stage Designs for Goethe's *Egmont*.
2551. Chenoweth, Grace Anne, A Program of Training in Speech Correction.
2552. Cook, Margaret Elizabeth, A Group of Original Scripts for Children's Radio Programs.



2553. Dedomenico, B. F. A., A Preliminary Study of the Hearing Conservation Problem at the College Level.
2554. Ecroyd, Donald Howarth, An Analysis of the Theory of Persuasion in Selected American Works on Argumentative Speaking.
2555. Links, Eleanor, A Comparison of Two Methods of Using Radio for Changing Certain Social Attitudes.
2556. Lown, Charles Raymond, Technical Methods of Eliminating Distortion in Lens Projection.
2557. Nelson, John Thomas, A Study of the Misarticulation of (s) in Combination with Selected Vowels and Consonants.
2558. Ray, Robert Frederick, An Analysis of Representative Types of Emotional Proof in the Speeches of Thomas E. Dewey in the Political Campaign of 1944.
2559. Tompkins, Consuelo Vivian, Program of Speech Education for the Negro Secondary Schools in Oklahoma.
2560. Wenzel, Betty Jane, A Director's Prompt Book and Designs for Production of Philip B. Sheridan's *The Rivals*.
2561. Wilson, Mary Lois, A Survey of the Speech Defects Among the Pupils in the Developmental B Classes in the Public Schools of Des Moines, Iowa.

*Ph.D. Thesis*

2562. Henderlider, Clair, An Evaluation of the Persuasive Techniques of Woodrow Wilson in His League of Nations Speeches, September 4-25, 1919.

## LOUISIANA STATE UNIVERSITY

1945

*M.A. Theses*

2563. Andrus, T. O., A Study of Laugh Patterns in the Theatre.
2564. Coats, Dorothy, Charlotte Cushman: Masculine Repertoire.
2565. Ellis, Carroll, The Alexander Campbell and John B. Purcell Religious Debate.
2566. Fergen, Geraldine, A Five Year Survey of Twenty-Two Children in the Public School of Norway Township, Michigan.
2567. Gasparovich, Eleanor, A Study of the Treatment of *Pronuntiatio* by the Ancients.
2568. Harang, Myra White, The Public Career of Francois Delsarte.
2569. Mendenhall, Alice, A Study of the Tactile Discriminative Ability of Perceptive Deaf

Children as Compared with Normal Hearing Children.

2570. Nixon, Cynthia, Negro Speech in Haynesville, Ruston, and Baton Rouge, Louisiana.
2571. Rizzo, Sister Mary Joanne, The Speech of New Orleans, Louisiana, at Three Levels.
2572. Seip, Helen, A Study in Listener Reaction to Voice Quality.
2573. Shepherd, Betty, A Comparative Study of Three Audiometric Techniques for Testing Pre-School Children.

## MARQUETTE UNIVERSITY

1945

*M.A. Theses*

2574. Charles, Sister Mary, O.S.U., Stages Throughout the Ages; An Appreciation of the Outstanding Theatre Artists and Their Works.
2575. Greve, Sister Mary Venard, O.S.F., Some Defects and Disorders Found Among Professional Users of Voice in the Pulpit, on the Platform, and in the Classroom.
2576. Wilson, Betty Louise, Pioneering Women in the Theatre.

## UNIVERSITY OF MICHIGAN

1945

*M.A. Theses*

2577. Bartlett, Betty J., The Problems of Stage Direction and Production in the Amateur Theatre in War Time.
2578. Behringer, Clara M., A Production Prompt Book for *She Stoops to Conquer*, by Oliver Goldsmith.
2579. Bradley, Pearl G., Paul Robeson as an Actor.
2580. Branch, Thelma D., Edwin Booth's Contributions to the Acting of Shakespearean Roles.
2581. Cuthbert, Doris A., Nutritional Determinants of Speech Development from the Point of View of Genetic Psychology.
2582. MacRitchie, Maralyn J., An Experimental Study to Standardize the Procedure of a new Type of Phonetic Analysis for Children and to Determine Age Limits for Which the Test Is Applicable.
2583. Mullin, Daniel W., A Critical Survey of the Architecture of Thirteen High School Stages and Auditoriums in the Detroit Area.
2584. Newman, Dora L., Literature for Declamations.

2585. Steinberg, Maida R., Incidence of Speech Defects as Related to Occupation of the Parents of Elementary and Junior High School Pupils in Ann Arbor, Michigan.

*Ph.D. Theses*

2586. Kenesson, Evelyn P., A Study of the Speeches and Speechmaking of James Burrill Angell.
2587. Schrier, William, Rhetorical Study of the Political and Occasional Addresses of Gerrit J. Diekema.

MICHIGAN STATE COLLEGE

1945

*M.A. Theses*

2588. Anderson, Margaret Mary, An Analysis of Some of the Sources of Variation Involved in Rating Speeches.
2589. Martin, Mary Jeanette, A Study of the Problems Involved in the Radio Adaptation and Production of Thirteen Great Short Stories.
2590. Nadal, Ruth Dillingham, Survey of Radio in the Public Schools of Michigan.

UNIVERSITY OF MINNESOTA

1945

*M.A. Theses*

2591. Adix, Vern, The Use of the Revolving Stage in the American Theatre.
2592. Brink, Lauren, A Survey of the Background, Training, and Practice of the Dramatic Directors of the Minnesota Public High Schools.
2593. Floyd, Warta, The Manner in Which American Movies Adapted Outstanding Novels and Plays During the Period from 1933 to 1943.

UNIVERSITY OF MISSOURI

1945

*M.A. Theses*

2594. Davis, Doris Louise, Public Speaking in Missouri: 1860.
2595. Fee, Mildred Beard, A Study and Prompt Book of Shakespeare's *King John*.
2596. Kaiser, Esther Dahlke, Richard Parks Bland's "Parting of the Ways" Speech.
2597. Minor, Galia Marie, Contributing Factors to the Decline of Oral Interpretation in the Great Age of Roman Literature.

NORTHWESTERN UNIVERSITY

1945

*M.A. Theses*

2598. Munz, Dorothy Jane, A Study of Some of the Variables which Might Influence

the Reliability of Sentence Tests of Speech Perception.

2599. Wheaton, Eunice, Two One-Half Hour Radio Dramas for a Children's Audience.

*Ph.D. Thesis*

2600. Lee, Charlotte, Prosodic Analysis and Oral Interpretation of the Poetry of Paul Verlaine.

OHIO STATE UNIVERSITY

1945

*M.A. Theses*

2601. Curtis, Agnes Bernadette, The Relationship Between Visual and Auditory Stimuli in Speech Comprehension.
2602. Leech, Hilda Schooley, The Contribution of Joseph Jefferson, the Actor, to the Art of High Comedy on the American Stage.

*Ph.D. Theses*

2603. Brooks, George Edward, A Rhetorical Comparison of Woodrow Wilson and Franklin D. Roosevelt, Based upon Aristotelian Criteria.
2604. Gerhard, Robert Hassler, Japanese Pronunciation.

OHIO UNIVERSITY

1945

*M.A. Theses*

2605. Cook, Margaret Laverty, Two Original One Act Plays Based Upon Events in Rome Township, Athens County, Ohio.
2606. Howley, Betty Jo Jepson, A Theoretical Production of *The Octoroon* or *Life in Louisiana* by Dion Boucicault.
2607. Quigley, Laura Leota, A Proposed Speech Program for Berry College, Mount Berry, Georgia.

UNIVERSITY OF OKLAHOMA

1945

*M.A. Thesis*

2608. Hobbs, Dora M., The Spoken Art of Mark Twain.

COLLEGE OF THE PACIFIC

1927

*M.A. Thesis*

2609. Van Gilder, Forence Scott, The Drama as a Factor in Americanization.

1935

2610. Brown, DeMarcus, A History of the Little Theatre of the College of the Pacific for the Years 1913-1935.

1939

2611. Eley, Robert, An Analytical Study of the Character of Sir John Falstaff.

2612. Farey, Arthur Randolph, *Bolivar: A Biographical Play in Eight Scenes.*  
1940
2613. Crabbe, John C., *The Vocascope; An Experimental Study in the Visual Measurement of Pitch and Quality.*
2614. Shook, Andrew W., *A Study of the Deviations of Voice, Articulation, and Rhythm of the Students of the Stockton Junior College.*  
1941
2615. Crabbe, Bobbin Gay, *A Study of the Present and Possible Use of Radio in Secondary Schools in the Vicinity of Stockton.*  
1942
2616. Hoessel, Virginia, *A Study of the Relative Effectiveness of Certain Courses in Improving Language Processes.*
2617. Ross, Latta Alan, *A Mechano-Physical Working Model of the Peripheral Speech Mechanism.*  
1944
2618. Givan, Joanna, *A Consideration of the Qualities Which Contribute to the Effectiveness of the Speeches of Franklin D. Roosevelt.*
2619. McMurry, Ocea H., *A Study of Speech Deviations of the Elementary School Children of the Shasta County Schools. School Year 1941-42.*  
UNIVERSITY OF REDLANDS  
1945  
*M.A. Thesis*
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